

JULY 12, 2021

REFER TO FILE: 1346-4573

SENT BY EMAIL:

MNIEVAS@WESTONCONSULTING.COM

City of Mississauga
Transportation & Works Department
201 City Centre Drive, Suite 800
Mississauga, ON, L5B 2T4

**Attention: Ryan Au, P.Eng.
City of Mississauga**

**RE: ADDENDUM TRAFFIC OPINION LETTER
FILE NO: OZ/OPA 18 13 & 21T-M 18 3
7170 GOREWAY DRIVE RESIDENTIAL DEVELOPMENT
CITY OF MISSISSAUGA**

Dear Ryan,

Pursuant to the proponent's request, this letter was prepared to address the City of Mississauga Traffic Review comments (dated January 2, 2020) pertaining the first submission Traffic Opinion Letter (dated December 2017) previously submitted for the proposed residential development at 7170 Goreway Drive in the City of Mississauga.

Correspondence between Crozier and the City of Mississauga dated June 16, 2017 confirmed the scope of work used for the original Traffic Opinion Letter (TOL). This Addendum TOL addresses the comments of the City of Mississauga regarding the first submission TOL. A scope of study regarding this Addendum TOL was further coordinated with the City of Mississauga staff. The correspondence with City staff and a comments response matrix highlighting how the comments were addressed are included in **Attachments A**.

Following the original scope, the TOL reviews the development plan from a transportation engineering perspective based on the main elements listed below.

- Assess existing traffic operations at the study intersection of Etude Drive at Goreway Drive during the weekday a.m. and p.m. peak hours.
- Forecasts site trip generation and distribution for the proposed development.
- Assess the 2017 total traffic operations at the intersections of Etude Drive at Goreway Drive and the proposed full moves site access during the weekday a.m. and p.m. peak hours.
- Proposed Site Access Safety Review including: Vehicle Maneuverability, Sight Distance Assessment, Access Spacing, Corner Clearance and Site Access Geometrics.

1.0 SUBJECT LANDS AND DEVELOPMENT PROPOSAL

The subject land (7170 Goreway Drive) is located on the southwest quadrant of the Goreway Drive at Etude Drive intersection. The site is zoned Residential "R3-69" by the City of Mississauga Zoning By-Law 0225-2007. Relevant zoning excerpts are provided in **Attachment B**.

The property is currently a vacant land and bounded by Goreway Drive to the east, Etude Drive to the north and residential developments to the south and east. Goreway Drive has been ascribed a north-south alignment to help provide clarity throughout this letter. The site location and surrounding area are illustrated in Figure 1.

The first submission TOL was based on a previous site plan (dated July 28, 2017) proposal of 14 condominium townhouses and 33 parking spaces. However, the current proposal consists of 15 condominium townhouses and 34 parking spaces (i.e., 2 per unit and 4 visitor parking spaces). The development will be served by a single full moves site access connection to Etude Drive located on the western limits of the property. Refer to Figure 2 for the site plan prepared by Jardin Design Group Inc. (dated June 16, 2021).

2.0 EXISTING CONDITIONS

2.1 Boundary Road Network

Goreway Drive is a north-south roadway with a five-lane cross-section at the site frontage, two lanes per travel direction and a two-way left turn median lane. Goreway Drive is under the jurisdiction of the City of Mississauga and is defined as a major collector roadway per the City of Mississauga Schedule 5 Long Term Road Network. The roadway has a posted speed limit of 60 km/h and concrete sidewalks located on both sides, separated from the roadway by a boulevard strip.

Etude Drive is an east-west roadway with a two-lane cross-section, one lane per direction. Etude Drive is under the jurisdiction of the City of Mississauga and is defined as a minor collector roadway per the City of Mississauga Schedule 5 Long Term Road Network. The roadway has a posted speed limit of 50 km/h and concrete sidewalks located on both sides of the roadway.

The four-legged intersection of Goreway Drive at Etude Drive is signalized. The northbound and southbound approaches (Goreway Drive) have an exclusive left-turn storage lane, one through lane and a shared through/ right-turn lane. The eastbound approach (Etude Drive) has an exclusive left-turn storage lane and a shared through/ right-turn lane. The westbound approach (Etude Drive) has one through lane and exclusive left-turn and right-turn storage lanes.

2.2 Traffic Data

Turning movement counts at the intersection of Goreway Drive at Etude Drive were surveyed by Ontario Traffic Inc. on Tuesday May 30th, 2017 between 7 a.m. to 10 a.m. and 3 p.m. to 7 p.m. The peak a.m. and p.m. hours occurred between 7:45 a.m. to 8:45 a.m. and 4:45 p.m. to 5:45 p.m. respectively. Summary of the turning movement counts are added to **Attachment C**.

2.3 Public Transit

At the time of preparing the original TOL, multiple MiWay Transit bus routes service the immediate surrounding area of the site. Route 11- Westwood operates all week, providing two-way services on Goreway Drive between Westwood mall and Toronto Transit Commission (TTC) Islington subway

station. Route 12- Rexdale operates Monday to Friday on Goreway Drive between Westwood mall and Islington Avenue. Route 24- Northwest operates Monday to Friday during rush hour on Goreway Drive between Westwood mall and Skymark Hub. Route 42-Derry operates all week, providing two-way services on Goreway Drive between Westwood mall and Meadowvale Town Centre. Route 59- Airport infield operates Monday to Friday during rush hour between Westwood mall and Toronto Pearson Airport. All bus stops are within approximately 90 metres of the subject property. These bus routes are subject to change over time and either similar or an increase in transit provision can be forecasted for the future. Relevant maps are included in **Attachment B**.

2.4 Traffic Modelling

The assessment of intersections is based on the method outlined in the "Highway Capacity Manual" using Synchro 9 modeling software. Intersections are assessed using a Level of Service metric, with ranges of delay assigned a letter from "A" to "F". For stop-controlled intersections, a Level of Service "A" or "B" would typically be measured during off-peak hours when lesser traffic volumes are on the roadways. Levels of Service "C" through "F" would typically be measured in the commuter peak hours when greater vehicle volumes cause longer travel times. The Level of Service (LOS) definitions for signalized and stop-controlled intersections are included the **Attachment D**.

2.5 Intersection Operations

The 2017 existing traffic operations at the intersection of Goreway Drive at Etude Drive was analyzed based on the existing traffic volumes illustrated in Figure 3. Detailed capacity analyses are provided in **Attachment E**. Table 1 outlines the 2017 existing traffic levels of service.

Table 1: 2017 Existing Levels of Service

Intersection	Control	Peak Hour	Level of Service	Average Delay per Vehicle(s)	V/C Ratio ¹	95 th %ile Queues > Storage Length
Goreway Drive at Etude Drive	Signalized	A.M.	C	27.3 s	0.81 (SBT)	42.1 m (WBL) 26.3 m (SBL)
		P.M.	C	25.9 s	0.91 (SBL)	41.4 m (WBL) 33.9 m (SBL)

Note: [1] V/C Ratio – illustrates the maximum volume to capacity ratio and other volume to capacity ratios greater than 0.90. The Level of Service of a signalized intersection is based on the average control delay per vehicle. Signal timing plans provided by the City of Mississauga were used. The 95th percentile queue analysis was completed using Sim-Traffic with 60 minutes recording time, 10 minutes seeding time, and an average of three runs.

As illustrated in Table 1, the intersection of Goreway Drive at Etude Drive operates at a Level of Service "C" during the weekday a.m. and p.m. peak periods. The maximum average delay per vehicle is 27.3 seconds during the weekday a.m. peak hour, with a maximum volume-to-capacity ratio of 0.91 for the southbound left-turn movement. The 95th percentile queue forecast indicates that, the westbound left-turn and southbound left-turn queues occasionally extend beyond the storage lane into the tapers and adjacent through lanes during the peak hours.

The City's comments request that trips from the existing adjacent church to be captured in the analysis. Trips from the existing church are captured in the traffic counts if there are any during the typical a.m. and p.m. peak hours of the study intersection. Furthermore, analysis of a Sunday peak hour is irrelevant to this development due to the proposed land use and low number of units.

3.0 SITE GENERATED TRIPS AND DISTRIBUTION

Site generated traffic for the proposed development was calculated using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition, Land Use Category (LUC) 230 "Residential Condominium/Townhouse". Table 2 below summarizes the trips generated by the proposed development.

Table 2: Original Site Generated Trips

Type of Use	Number of Units	Peak Hour	In (%)	Out (%)	Total
Residential Condominium/ Townhouse (LUC 230)	14	Weekday A.M.	2 (17%)	10 (83%)	12
		Weekday P.M.	8 (67%)	4 (33%)	12

Vehicles entering and exiting the site were distributed based on Transportation Tomorrow Survey data at the study intersections. The site trip distribution and trip assignment volumes are illustrated in Figures 4 and 5, respectively.

The original trip generation and traffic analysis for the previously proposed 14 units has been maintained herein in this Addendum TOL as the change in units per the current site plan (15 units proposed) is immaterial to the results and findings of the original TOL. Moreover, if new trips were to be generated for the 15 units using the current ITE Trip Generation Manual, 10th Edition, fewer trips are forecast as illustrated in Table 3. The greater trip generation between the fitted curve equation and the average rate methodology are presented herein.

Table 3: New Site Generated Trips

Type of Use	Number of Units	Peak Hour	In (%)	Out (%)	Total
Multifamily Housing Low-Rise (LUC 220)	15	Weekday A.M.	2 (23%)	6 (77%)	8
		Weekday P.M.	7 (63%)	4 (37%)	11

Therefore, maintaining the original trip generation and analysis herein is conservative and consistent with the scope that was coordinated with the City of Mississauga staff.

4.0 TOTAL TRAFFIC OPERATIONS

Traffic operations at the study intersections of Etude Drive with Goreway Drive and the Site Access were assessed with the addition of site generated traffic. The operations of the study intersections were analyzed based on the 2017 total traffic volumes illustrated in Figure 6. Table 4 outlines the total traffic levels of service. Detailed capacity analyses are provided in **Attachment E**.

Table 4: 2017 Total Traffic Levels of Service

Intersection	Control	Peak Hour	Level of Service	Average Delay per Vehicle(s)	V/C Ratio ¹	95 th %ile Queues > Storage Length
Goreway Drive at Etude Drive	Signalized	A.M.	C	22.1 s	0.83 (WBL)	42.4 m (WBL)
		P.M.	C	21.6 s	0.84 (WBL)	43.9 m (WBL) 29.9 m (SBL)
Full Moves Site Access at Etude Drive	Stop (Minor)	A.M.	A	9.6 s	0.01 (NB)	None
		P.M.	A	9.6 s	0.01 (NB)	None

Note: [1] V/C Ratio – illustrates the maximum volume to capacity ratio and other volume to capacity ratios greater than 0.90. The Level of Service of a signalized intersection is based on the average control delay per vehicle. Optimized signal timing plans were used. The Level of Service of a Stop-Controlled intersection is based on the delay associated with the critical minor approach. The 95th percentile queue analysis was completed using Sim-Traffic with 60 minutes recording time, 10 minutes seeding time, and an average of three runs.

As illustrated in Table 4, the addition of site generated traffic to the roadway system will have no material impact on traffic operations at the study intersection. The intersection of Goreway Drive at Etude Drive is projected to operate at the same Level of Service “C” during the weekday a.m. and p.m. peak periods similar to the existing conditions. With the optimized signal timing, a maximum average delay per vehicle of 22.1 seconds is projected during the weekday a.m. peak hour, a decrease of 5.2 seconds compared to the 2017 existing traffic conditions. A maximum volume-to-capacity ratio of 0.84 for the westbound left-turn movement is projected during the weekday p.m. peak hour.

Similar to the existing conditions, the 95th percentile queues projects that the westbound left-turn (WBL) and southbound left-turn (SBL) queues will occasionally extend beyond the storage lanes into the tapers and adjacent through lanes during the peak hours. It is noted that the proposed development does not contribute traffic to the WBL and SBL movements. Additionally, the proposed development adds only a total of 8 and 11 two-way trips during the a.m. and p.m. peak hours, respectively.

The intersection of Etude Drive at the proposed full-moves site access is projected to operate below capacity at a Level of Service “A” during the weekday a.m. and p.m. peak hours. A maximum average vehicle delay of 9.6 seconds is projected for vehicles exiting the site during the weekday peak hours.

5.0 SITE ACCESS SAFETY REVIEW

This section reviews the proposed site access as well as for internal site circulation from a safety and operational feasibility perspective.

5.1 Sight Distance Assessment

The available sight distance on Etude Drive at the proposed site access location was measured from an online Geographic Information System (GIS) mapping tool. The following assumptions were made regarding the available sight distance measurements:

- A standard driver eye height of 1.08 m for a passenger car.

- A 4.4 m setback from the edge of the outer lane to represent a vehicle waiting to exit the connecting roadway.

The standards set out in the Transportation Association of Canada Geometric Design Guide for Canadian Roads (TAC-GDGCR) Section 9.9 was used to assess the adequacy of available sight distances. Per the TAC-GDGCR, minimum required intersection sight distance is calculated using equation 9.9.1 as outlined below:

$$ISD = 0.278 * V_{major} * tg$$

Where;

ISD = Intersection Sight Distance

V major = design speed of roadway (km/h)

tg = assumed time gap for vehicles to turn from stop onto roadway (s)

Etude Drive is fairly flat; therefore, the assessment herein assumed the road's longitudinal slope to be within 3%. Per the City of Mississauga comments regarding the site's proposed 8m-by-15m sight triangle at the south-west corner of the Goreway Drive and Etude Drive intersection, sight distance assessment was also completed for the Etude Drive connection at Goreway Drive to confirm its adequacy.

Table 5: Sight Distance Analysis

Feature	Etude Drive at Site Access	Goreway Drive at Etude Drive (Proposed 8m X 15m Sight Triangle)
Access Type	Full-Moves	Full-Moves
Posted Speed Limit of Roadway	50 km/h (assumed)	60 km/h (assumed)
Assumed Design Speed	60 km/h	70 km/h
Base Time Gap	7.5 s (facing east) 6.5 s (facing west)	7.5 s (facing south) 6.5 s (facing north)
Additional Time Gap	None	1.0 s (south - time to cross centre lanes for a left turn lane)
Grade of Roadway	Assumed as 3%	Assumed as 3%
Horizontal Alignment of Roadway	Fairly straight with slight curvature	Fairly straight
Sight Distance Required	130 m (east) 110 m (west)	170 m (south) 130 m (north)
Available Sight Distance	> 130 m (east) > 110 m (west)	> 170 m (south) > 130 m (north) Without encroaching proposed sight triangle
Minimum Sight Distance Satisfied?	Yes	Yes

As presented in Table 5, the minimum sight distance requirements are satisfied at the proposed site access connection to Etude Drive. Similarly, though not a typically requirement at a signalized

intersection, sight distances from Etude Drive are adequate under the 8m-by-15m sight triangle proposed by the site at the south-west corner of the Goreway Drive and Etude Drive intersection. Additionally, TAC-GDGCR section 9.9.2.3 notes that, for a signalized intersection, sight triangles are not required. However, the first vehicle on every approach should be visible to all the other approach drivers. Drivers should have adequate sight distance to make right or left turn movements.

The 8m-by-15m clear sightline triangle proposed by the site is adequate as there is clear visibility of the entire intersection and the approach is visible from all the other approaches as required by TAC-GDGCR. Further, the City of Mississauga Sign By-Law 54-02 identifies a sightline triangle length of 15m for an arterial road and 7.5m for a collector road. As both roads are collector roads, the proposed 8m-by-15m clear sightline triangle meets the City's By-Law requirement.

5.2 Access Spacing and Corner Clearance

Figure 8.8.2 in the TAC GDGCR outlines minimum recommended corner clearances to accesses from intersections. Etude Drive is classified as a "minor collector" roadway. The recommended minimum intersection corner clearance from signalized intersection for the site access is 55 m and a minimum of 25 m from a stop-controlled intersection.

The proposed site access location results in a corner clearance of approximately 65 m from the signalized intersection at Goreway Drive; and approximately 50 m from the stop-controlled intersection at Minotola Avenue. Therefore, the proposed site access satisfies the minimum recommended intersection corner clearance and spacing per the TAC GDGCR.

The longest 95th percentile queue for the eastbound approach movements including the eastbound left-turn at the intersection of Goreway Drive and Etude Drive is 49.4 m (eastbound through) during the p.m. peak hour. Therefore, the proposed full moves site access located approximately 60 m from the stop line on Etude Drive is not expected to be blocked by the eastbound traffic queues at the intersection of Etude Drive and Goreway Drive.

Furthermore, along Etude Drive and the surrounding roads, close proximity driveways on either side of the property lines are typical. With queueing not anticipated to block the access, nor materially impact the LOS and delay at the access intersection, the site access location can be supported from a traffic operations perspective.

5.3 Access Configuration and Vehicle Maneuverability

Vehicle turning plans using the Region of Peel front-end bin loading waste vehicle and an aerial fire truck as the design vehicles were prepared to assess the ability of the site to accommodate circulation of expected waste collection and emergency vehicles. The vehicle turning plans are presented in the **Attachment F**.

The configuration of the site accesses satisfies the radii and lane width requirements of the TAC GDGCR and the Ontario Provincial Standard Drawing (OPSD) 350.010. Additionally, the site access and travel path for the waste removal satisfy the route requirements of the Region of Peel for waste collection. The access route to the garbage collection point has a 4.4 m overhead clearance, a centre line turning radius of 13 m and the driveway longitudinal slope shall not exceed 2%.

6.0 CONCLUSION AND RECOMMENDATIONS

This Addendum Traffic Opinion Letter has assessed the transportation impacts of the proposed residential development at the 7170 Goreway Drive site in the City of Mississauga. The analysis herein regarding the proposed development has resulted in the following key findings:

- Under 2017 existing traffic conditions, the study intersection of Goreway Drive at Etude Drive operates at a Level of Service (LOS) "C" during the weekday a.m. and p.m. peak hours. The maximum average vehicle delay is 27.3 seconds during the peak hours, with a maximum volume-to-capacity (v/c) ratio of 0.91 for the southbound left-turn movement.
- The proposed residential development is projected to generate a total of 8 and 11 two-way auto-trips during the weekday a.m. and p.m. peak hours, respectively.
- Under 2017 total traffic conditions (includes site generated traffic) the study intersection of Goreway Drive at Etude Drive is forecast to operate similarly as under existing conditions. A LOS "C" is forecast during the weekday a.m. and p.m. peak hours.
- With the optimized signal timings, a maximum average delay per vehicle of 22.1 seconds is projected during the weekday a.m. peak hour, a decrease of 5.2 seconds compared to 2017 existing traffic conditions. A maximum v/c ratio of 0.84 for the westbound left-turn movement is projected during the weekday p.m. peak hour.
- The proposed full moves site access at Etude Drive is expected to serve the site without any safety issues related to sightlines, corner clearances, access conflicts and transit operational conflicts.
- Additionally, the site can accommodate circulation of the Peel Region front-end waste collection vehicle that is expected to serve the site as well as an aerial fire truck.
- The site is located within an area with good transit service, pedestrian facilities and within a 200 m walking distance of a large commercial service area. These existing facilities are expected to encourage transit use, walking and reduce auto trips at the proposed development.

Based on this study findings, it is our conclusion that the traffic generated from the proposed residential development at 7170 Goreway Drive will not materially impact operations of the boundary road network. The Official Plan Amendment, Zoning By-Law Amendment and Site Plan Applications can be supported from a traffic operations perspective as the boundary road system can accommodate the increase in traffic volumes attributable to the proposed development.

Submitted by,

C.F. CROZIER & ASSOCIATES INC.



Peter Apasnore M.A.Sc., P.Eng., P.T.O.E.
Project Engineer



C.F. CROZIER & ASSOCIATES INC.



R. Aaron Wignall
Associate, Transportation

I:\1300\1346-Rup Groups\4573-7170 Goreway Dr\Letters\2020 - Traffic\2021.05.21_7170 Goreway Drive TOL (CROZIER).doc

Attachment A

**7170 Goreway Road, City of Mississauga
Comment Response Matrix – File. No. OZ/OPA 18 13 & 21T-M 18 3**

City of Mississauga, Transportation and Works, Traffic Review (PPP)	
COMMENT	RESPONSE
1. [TRAFFIC OPINION LETTER] The following shall be included and/or updated in the Traffic Opinion Letter prepared by Crozier, dated December 2017: (i) The Traffic Opinion Letter must be stamped and signed by a P.Eng. (ii) A sightline analysis at the proposed access is referenced as part of the review but was not provided in the letter/study. (iii) Review the Trip Generation. The site generated traffic, synchro inputs and figures do not match. Revise each including synchro analysis as required. (iv) The traffic study shall be updated to review the operations/queuing on Etude Drive along with the operations of the existing church to the north in proximity to the proposed access. (v) The conclusion results do not match summary tables and synchro outputs. Please revise. (vi) As per the Terms of Reference, provide turning movement templates for the internal site circulation for Fire and Waste Collection trucks. (vii) Include the Signal Timing Plan in the attachments. Additional comments may be provided as a result of new and updated information. Created : 2018-08-10 09:58:43 Last Modified : 2020-01-02 16:48:44	(i) Noted and stamped. (ii) A sightline assessment has been included in Section 5 of the updated Traffic Opinion Letter. (iii) There were typographical errors in the figures which have been revised. Synchro inputs are correct, and no analysis update are required. (iv) The analysis already captures the existing trips (including that of the church) during the peak hours of the adjacent intersection at Etude Drive and Goreway Drive. Refer to Section 2.5 of the updated TOL. Similarly, as noted in section 4.0; upon implementation of the development; no operational or queuing issues are forecast. (v) As the synchro analysis remain the same (Attachment E), findings of this Letter remain same. The conclusion is updated to reflect the Synchro summary tables. (vi) Truck turning plans for fire and waste collection are provided in Attachment F of the updated TOL. (vii) The original existing (2017) signal timing plan that was obtained from the City and used could not be retrieved. However, it is noted that the signal timing plan and 2017 existing traffic operations are quite immaterial to the discussion as the 2017 total traffic operations forecasted indicate adequate levels of service and the intersection was forecast

**7170 Goreway Road, City of Mississauga
Comment Response Matrix – File. No. OZ/OPA 18 13 & 21T-M 18 3**

City of Mississauga, Transportation and Works, Traffic Review (PPP)	
COMMENT	RESPONSE
	to operate below capacity. Further the trips from this site are low, thus 8 and 11 during the a.m. and p.m. peak hours.
4. [DRAFT M-PLAN REVISIONS] The Draft M-Plan shall be revised to include a block for the 15 by 15 metre sight triangle at the southwest corner of Goreway Drive and Etude Drive. Created : 2019-12-24 11:20:28 Last Modified : 2020-01-02 16:50:21	TAC-GDGCR section 9.9.2.3 discusses sightline triangles and sight distance requirements. For a signalized intersection, TAC-GDGCR notes that sight triangles are not required, however, the first vehicle on every approach should be visible to all the other approach drivers. Drivers should have adequate sight distance to make right or left turn movements. The 8m-by-15m clear sightline triangle proposed by the site is adequate as there is clear visibility of the entire intersection and the approach is visible from all the other approaches as required by TAC-GDGCR. Additionally, the City of Mississauga Sign By-Law 54-02 identifies a sightline triangle length of 15m for an Arterial Road and 7.5m for a Collector Road. As both roads are classified as collector roads, the proposed 8m-by-15m clear sightline triangle meets the City's By-Law requirement. Section 5.1 of the Addendum Traffic Opinion Letter discusses this further as well as an assessment of the available sightlines.

**7170 Goreway Road, City of Mississauga
Comment Response Matrix – File. No. OZ/OPA 18 13 & 21T-M 18 3**

City of Mississauga, Transportation and Works, Traffic Review (PPP)	
COMMENT	RESPONSE
5. [LAND CONVEYANCES] The Owner is to gratuitously dedicate a 15 by 15 metre sight triangle at the southwest corner of Goreway Drive and Etude Drive to the City of Mississauga. The Owner is to contact Valeriya Danylova, Environmental Technologist (valeriya.danylova@mississauga.ca, ext. 5930) to ensure the required land dedication has no conflicts or additional requirements from Environmental Site Management Section. Created : 2018-08-27 10:47:25 Last Modified : 2020-01-02 16:50:21	As presented in response to comment #4 above, the proposed 8m-by-15m clear sightline triangle meets the City's By-Law requirement and TAC-GDGCR.

Peter Apasnore

From: Peter Apasnore
Sent: September 1, 2020 12:23 PM
To: Ryan.Au@mississauga.ca
Subject: RE: 7170 Goreway Road (PA/ZBA 18 13 & Subdivision 21T-M 18 3)

Hi Ryan,

As discussed on phone, our update of the Traffic Letter will focus on addressing the comments and the following is agreed.

- We will keep a horizon of 2017 as requested per the original scope
- We will provide a rationale for analyzing only a.m. and p.m. peak hours
- The 8m X 15m sight triangle meets TAC and the City's Sign By-Law 54-02 requirements. We will provide further sightline review to support this as well as the proposed site access.
- Address all other minor comments received.

Regards,

From: Peter Apasnore
Sent: August 31, 2020 11:29 AM
To: Ryan.Au@mississauga.ca
Subject: 7170 Goreway Road (PA/ZBA 18 13 & Subdivision 21T-M 18 3)

Hi Ryan,

I left you a voicemail, but thought I follow up with an email too.

We are looking to address the comments and update the TOL, but I will like to clarify some of the comments prior. If you or the staff the made the comments can contact me for a quick chat, that will be great.

Thank you,

Junaid Khan

From: Linda Wu <Linda.Wu@mississauga.ca>
Sent: Friday, June 16, 2017 2:18 PM
To: Junaid Khan
Cc: Leslie Green; Giancarlo Tedesco
Subject: RE: 7170 Goreway Drive Terms of Reference (CFC#1346-4573)
Attachments: A100 - Development Concept.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Junaid,

We agree that a Traffic Opinion Letter is sufficient in this case. Please see our comments below regarding the ToFR:

Site Access

- 1) The proposed access on Etude Drive is to be restricted to right-in-right-out only due to its proximity to the intersection of Goreway Drive and Etude Drive.
- 2) We are not supportive of the proposed right-in-right-out access on Goreway Drive due to the following reasons:
 - The proposed Etude Drive access would be sufficient to accommodate the future site traffic;
 - The proposed Goreway Drive would conflict with the existing Enbridge utility box on Goreway Drive, please note that any resultant utility relocation would be at the applicant's expense.As such, the Goreway Drive access is to be removed.

Signal Timing

Please contact the following city staff for signal timing plans:

Jim Kartsomanis, Traffic Signal System Coordinator
Tel: 905-615-3200 ext. 3964
E-mail: Jim.Kartsomanis@mississauga.ca

Site Circulation

Truck turning templates are required if Fire or Waste Collection trucks need to enter/exit the subject site.

The ePlans (pre-consultation) comments provided by City staff based on the attached plan

This Section is of the opinion that the proposed access is to be restricted to a Right-in-Right-out only due to its proximity to the intersection of Goreway Drive and Etude Drive. However, the applicant may explore a full-movement access by relocating the proposed access to the west limit of the subject property and this would require an access operational analysis. The traffic consultant should provide the scope of work for the analysis to this Section for review and receive confirmation prior to commencing of the study.

The applicant is advised that Enbridge is proposing to relocate infrastructure near the subject property. The applicant is strongly advised to contact Enbridge for further information.

Please see "Submission Requirements" folder for further information.

All landscaping and grading within close proximity to the proposed access points is to be designed to ensure that adequate sight distances are available for all approaching and exiting motorists and pedestrians.

Driveway accesses shall maintain a 1.5m setback from aboveground features such as utilities and trees.

Any above ground utilities located within 1.5m of a proposed access are to be relocated at the applicant's expense.

The applicant is to provide the rationale for proposing 8m by 15m daylight triangle.

Thanks,

Linda

From: Junaid Khan [mailto:jkhan@cfcrozier.ca]

Sent: 2017/05/29 2:50 PM

To: Giancarlo Tedesco

Cc: Aaron Wignall; Linda Wu

Subject: [WARNING: ATTACHMENT UNSCANNED]7170 Goreway Drive Terms of Reference (CFC#1346-4573)

Hi Giancarlo,

I hope my email finds you well. We have been retained to complete a Traffic Impact Study for a proposed residential development located at 7170 Goreway Drive in the City of Mississauga. The proposed development consists of 13 condominium townhouse units, a total supply of 30 parking spaces, including four visitor parking spaces (one being a barrier free accessible parking space). Two site accesses are proposed, one right-in/right-out access to Goreway Drive and one full-moves access to Etude Drive. Attached is the most recent Site Plan for your reference. I have detailed below our Terms of Reference for the requested study. We kindly request your feedback regarding our study assumptions.

The proposed development is expected to generate a total of 10 a.m. and 11 p.m. trips based on ITE Trip Generation (Landuse Category 230). Due to the small scale of the proposed development, would the submission of a Traffic Opinion Letter rather than a Traffic Impact Study be adequate? To complete the Traffic Opinion Letter, we will:

- Analyze the a.m. and p.m. peak hours to reflect the residential use of the development;
- Analyze the study intersection of Goreway Drive at Etude Drive;
- The study intersection will be analyzed under 2017 existing conditions and 2017 total traffic conditions;
- The site trip generation will be completed based on Institute of Transportation Engineers(ITE) data;
- Trip distribution will be based on Transportation Tomorrow Survey data and supported by existing travel patterns.

Also, if you could provide me a contact email to get the signal timings for the Goreway Drive at Etude Drive Road intersection that would greatly appreciated.

I hope the above is acceptable. Should you have any questions or concerns please feel free to contact myself or my colleague Aaron Wignall copied on this email.

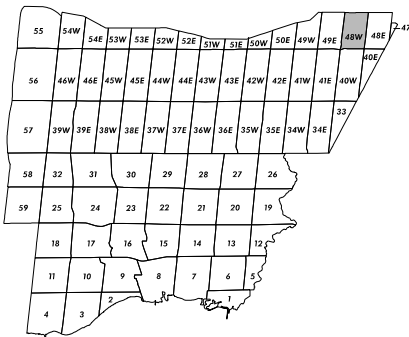
Thanks for your time,

| **JUNAID KHAN** | TRANSPORTATION EIT | C.F. CROZIER & ASSOCIATES

| 2800 High Point Drive, Suite 100 | Milton, ON L9T 6P4

| cfcrozier.ca | jkhan@cfcrozier.ca | tel 905 875 0026

Attachment B



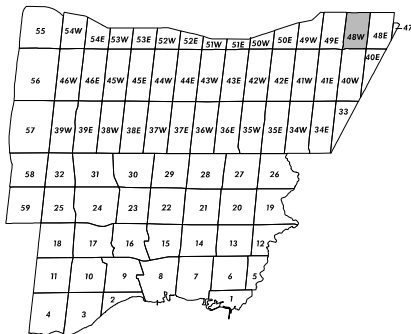
Greenlands Overlay

Zoning Notation Example:
R4-12 = R4-Exception 12

**Zoning
Map 48W**
Schedule "B" To
By-law No. 0225-2007
Revised: 2016 November 30

[illegible]

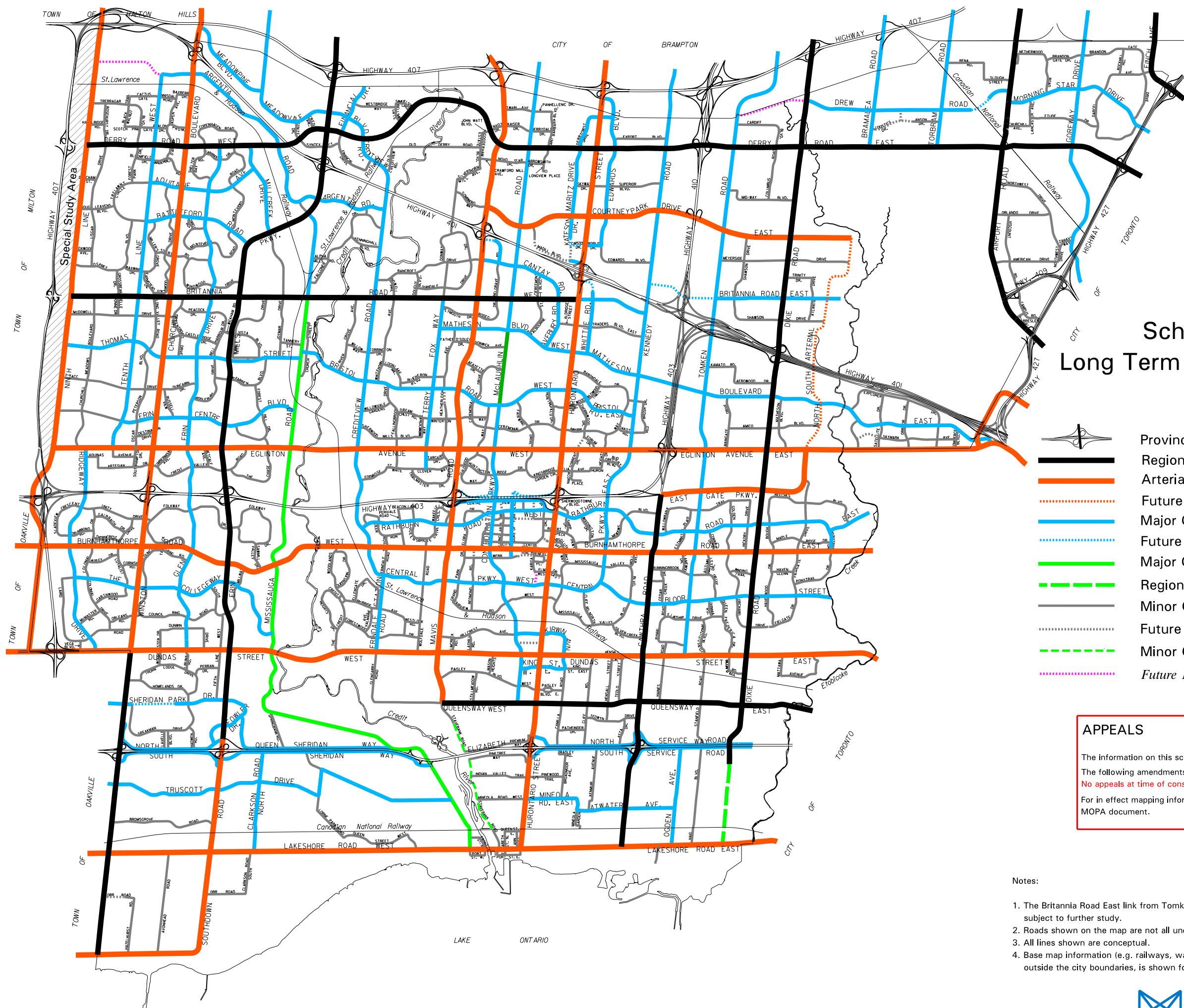
48E



 Greenlands Overlay

Zoning Notation Example:
R4-12 = R4-Exception 12

Schedule "B" To
By-law No. 0225-2007
Revised: 2016 November 30



Schedule 5 Long Term Road Network

- Provincial Highway and Interchange
- Regional Arterial
- Arterial
- Future Arterial (conceptual)
- Major Collector
- Future Major Collector (conceptual)
- Major Collector (Scenic Route)
- Regional Major Collector (Scenic Route)
- Minor Collector
- Future Minor Collector
- Minor Collector (Scenic Route)
- Future Road Link to be added.

APPEALS

The information on this schedule reflects Council adopted amendments.
The following amendments are under appeal and affect this schedule:
No appeals at time of consolidation.
For in effect mapping information refer to the Consolidation Tables and MOPA document.

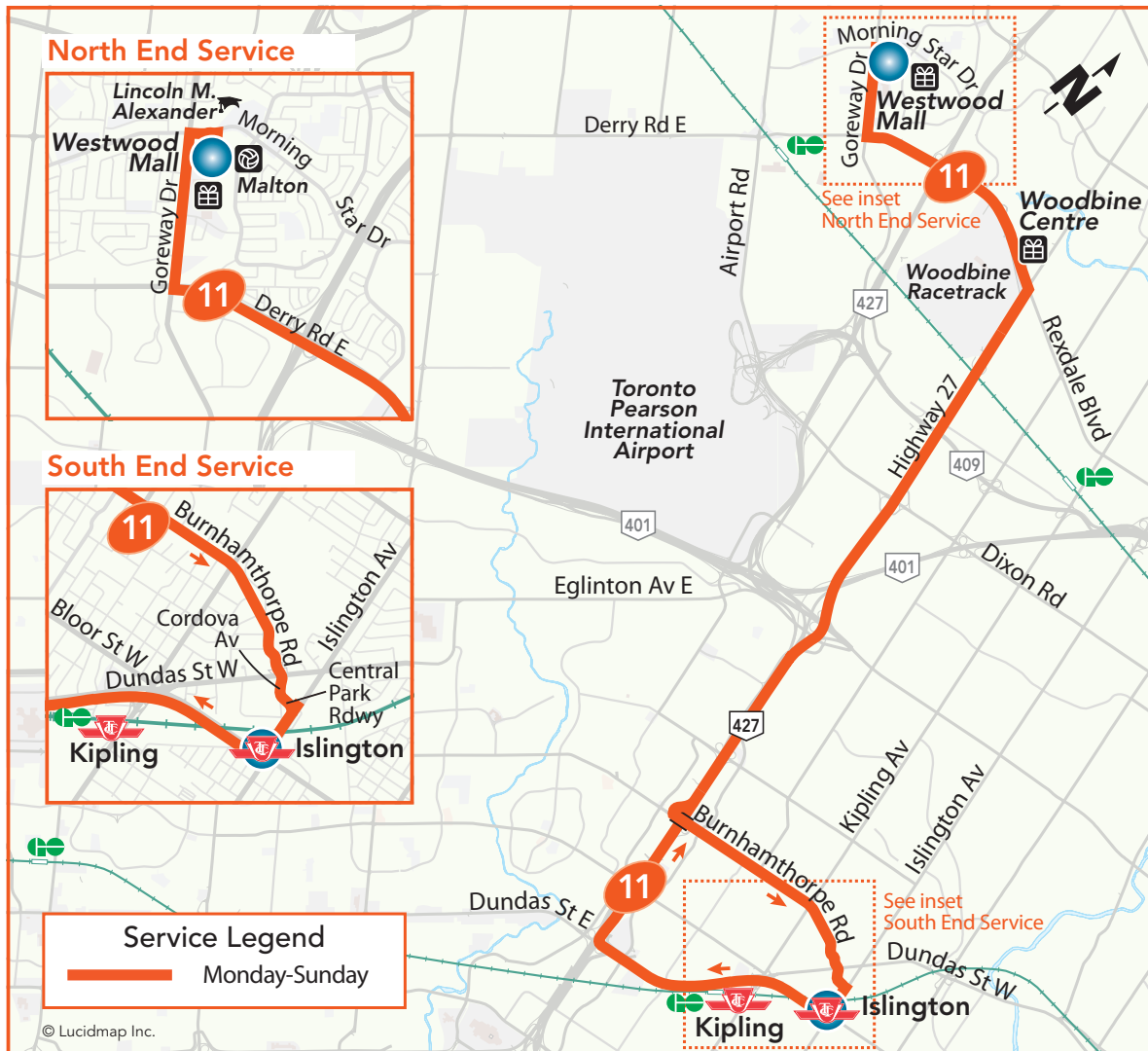
Notes:

1. The Britannia Road East link from Tomken Road to Kennedy Road is conceptual and is subject to further study.
2. Roads shown on the map are not all under Mississauga jurisdiction.
3. All lines shown are conceptual.
4. Base map information (e.g. railways, watercourses), including any lands or bodies of water outside the city boundaries, is shown for information purposes only.

11 Westwood

Monday-Sunday Service

Effective: January 28, 2013



Legend

- | | | | |
|--|------------------------|------------------------------------|--------------------------|
| Islington
TTC Subway Station | Major Transit Terminal | Shopping Centre | Public Library |
| Clarkson
GO Train Station | Hospital | High School, University or College | Living Arts Centre |
| Transitway Station | Ice Rink | Recreation or Community Centre | Civic Centre (City Hall) |



Customer Service - We're here to help



Find a schedule or trip plan

@MiWayHelps
 miway.ca/feedback
 905-615-INFO (4636)
 miway.info@mississauga.ca
 TTY: 905-615-3886

m.miway.ca

miway.ca/planatrip

905-615-4BUS(4287)

Call and enter a four-digit bus stop number.

12 Rexdale

Monday-Friday Service

Effective: January 28, 2013



Legend

- | | | | |
|--|------------------------|------------------------------------|--------------------------|
| Islington
TTC Subway Station | Major Transit Terminal | Shopping Centre | Public Library |
| Clarkson
GO Train Station | Hospital | High School, University or College | Living Arts Centre |
| Transitway Station | Ice Rink | Recreation or Community Centre | Civic Centre (City Hall) |



Customer Service - We're here to help

@MiWayHelps
 miway.ca/feedback
 905-615-INFO (4636)
 miway.info@mississauga.ca
 TTY: 905-615-3886



Find a schedule or trip plan

m.miway.ca
 miway.ca/planatrip
 citylink
 905-615-4BUS(4287)
 Call and enter a four-digit bus stop number.

24 Northwest

Monday-Friday Service

Effective: June 29, 2015



Legend

- | | | | |
|--|------------------------|------------------------------------|--------------------------|
| Islington
TTC Subway Station | Major Transit Terminal | Shopping Centre | Public Library |
| Clarkson
GO Train Station | Hospital | High School, University or College | Living Arts Centre |
| Transitway Station | Ice Rink | Recreation or Community Centre | Civic Centre (City Hall) |



Customer Service - We're here to help

@MiWayHelps miway.ca/feedback 905-615-INFO (4636)

miway.info@mississauga.ca TTY: 905-615-3886



Find a schedule or trip plan

m.miway.ca

miway.ca/planatrip



Call and enter a four-digit bus stop number.

42 Derry

Monday-Sunday Service

Effective: January 28, 2013



Legend

- | | | | |
|--|--|---|---------------------------------|
| Islington
TTC Subway Station | Major
Major Transit Terminal | Shopping Centre | Public Library |
| Clarkson
GO Train Station | Hospital | High School, University or College | Living Arts Centre |
| Transitway Station | Ice Rink | Recreation or Community Centre | Civic Centre (City Hall) |



Customer Service - We're here to help

@MiWayHelps miway.ca/feedback 905-615-INFO (4636)

miway.info@mississauga.ca TTY: 905-615-3886



Find a schedule or trip plan



m.miway.ca

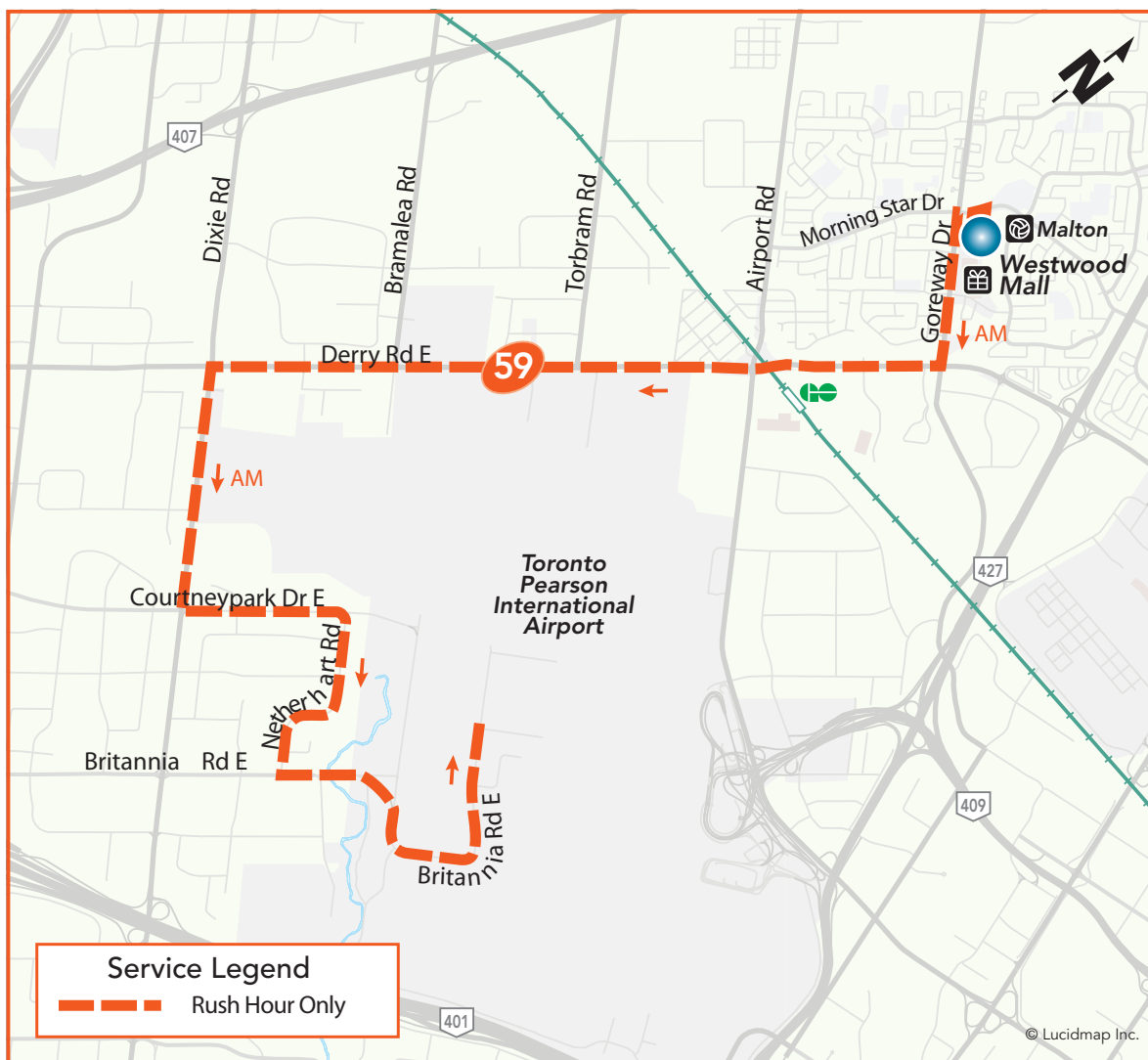


miway.ca/planatrip



Call and enter a four-digit bus stop number.

Effective: January 28, 2013



Islington	TTC Subway Station	Major Transit Terminal	Shopping Centre	Public Library
Clarkson	GO Train Station	Hospital	High School, University or College	Living Arts Centre
	Transitway Station	Ice Rink	Recreation or Community Centre	Civic Centre (City Hall)



Customer Service - We're here to help



Find a schedule or trip plan



m.miway.ca



miway.ca/planatrip



Call and enter a four-digit bus stop number.

Attachment C

Ontario Traffic Inc.

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 10:00:00

One Hour Peak

From: 7:45:00

To: 8:45:00

Municipality: Mississauga

Site #: 1715800001

Intersection: Goreway Dr & Etude Dr

TFR File #: 4

Count date: 30-May-17

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Goreway Dr runs N/S

North Leg Total: 1819

North Entering: 1325

North Peds: 32

Peds Cross: $\times$

	Heavys	Trucks	Cars	Totals
North	0	0	0	0
East	5	41	12	58
South	23	1199	45	1267
West	28	1240	57	



	Heavys	Trucks	Cars	Totals
North	0	49	445	494

East Leg Total: 464

East Entering: 279

East Peds: 28

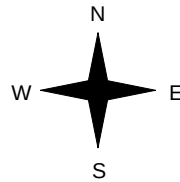
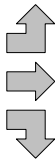
Peds Cross: $\times$

Heavys	Trucks	Cars	Totals
0	9	154	163



Etude Dr

Heavys	Trucks	Cars	Totals
0	1	42	43
0	6	63	69
0	1	110	111
0	8	215	



Goreway Dr

Goreway Dr

Cars	Trucks	Heavys	Totals
48	8	0	56
72	1	0	73
139	11	0	150
259	20	0	

Etude Dr



Cars	Trucks	Heavys	Totals
165	20	0	185

Peds Cross: $\times$

West Peds: 10

West Entering: 223

West Leg Total: 386

Cars	Trucks	Heavys	Totals
1448	53	0	1501



Cars	Trucks	Heavys	Totals
59	3	0	62
355	40	0	395
57	2	0	59
471	45	0	

Peds Cross: $\times$

South Peds: 19

South Entering: 516

South Leg Total: 2017

Comments

Ontario Traffic Inc.

Afternoon Peak Diagram

Specified Period

From: 15:00:00

To: 19:00:00

One Hour Peak

From: 16:45:00

To: 17:45:00

Municipality: Mississauga

Site #: 1715800001

Intersection: Goreway Dr & Etude Dr

TFR File #: 4

Count date: 30-May-17

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Goreway Dr runs N/S

North Leg Total: 2121

North Entering: 780

North Peds: 59

Peds Cross: $\times$

	Heavys	0	1	0	1
Trucks	2	47	2	51	
Cars	36	611	81	728	
Totals	38	659	83		

	Heavys	0
Trucks	35	
Cars	1306	
Totals	1341	

East Leg Total: 727

East Entering: 297

East Peds: 68

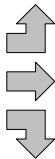
Peds Cross: $\times$

Heavys	Trucks	Cars	Totals
0	8	282	290

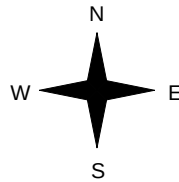


Etude Dr

Heavys	Trucks	Cars	Totals
0	1	47	48
0	0	124	124
0	2	70	72
0	3	241	



Goreway Dr



Cars	Trucks	Heavys	Totals
44	1	0	45
106	1	0	107
144	1	0	145
294	3	0	

Etude Dr



Cars	Trucks	Heavys	Totals
426	4	0	430

Peds Cross: $\times$

West Peds: 17

West Entering: 244

West Leg Total: 534

Cars	825	Trucks	50	Heavys	1	Totals	876
Cars	140	1215	221	1576			
Trucks	5	33	2	40			
Heavys	0	0	0	0			
Totals	145	1248	223				

Peds Cross: $\times$

South Peds: 20

South Entering: 1616

South Leg Total: 2492

Comments

Ontario Traffic Inc.

Total Count Diagram

Municipality: Mississauga
Site #: 1715800001
Intersection: Goreway Dr & Etude Dr
TFR File #: 4
Count date: 30-May-17

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Goreway Dr runs N/S

North Leg Total: 12384
 North Entering: 6120
 North Peds: 329
 Peds Cross: $\times$

	Heavys	Trucks	Cars	Totals
North	0	3	0	3
East	20	303	24	347
South	203	5208	359	5770
Totals	223	5514	383	

	Heavys	Trucks	Cars	Totals
North	0	342	5922	6264
East	0	342	5922	6264
South	0	342	5922	6264
Totals	0	342	5922	6264

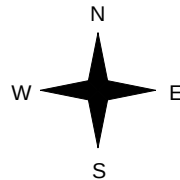
East Leg Total: 3988
 East Entering: 1939
 East Peds: 379
 Peds Cross: $\times$

Heavys	Trucks	Cars	Totals
0	47	1409	1456



Etude Dr

Heavys	Trucks	Cars	Totals
0	14	312	326
0	13	603	616
0	7	621	628
0	34	1536	



Goreway Dr



Cars	Trucks	Heavys	Totals
337	25	0	362
615	11	0	626
927	24	0	951
1879	60	0	

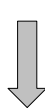
Etude Dr



Cars	Trucks	Heavys	Totals
1997	51	1	2049

Peds Cross: $\times$
 West Peds: 107
 West Entering: 1570
 West Leg Total: 3026

Cars	Trucks	Heavys	Totals
6756	334	3	7093



Cars	Trucks	Heavys	Totals
591	16	0	607
5273	303	0	5576
1035	14	1	1050
6899	333	1	

Peds Cross: $\times$
 South Peds: 127
 South Entering: 7233
 South Leg Total: 14326

Comments

Ontario Traffic Inc.

Traffic Count Summary

Intersection: Goreway Dr & Etude Dr

Count Date: 30-May-17

Municipality: Mississauga

North Approach Totals						North/South Total Approaches	South Approach Totals					
Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds		Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	1	5	0	6	0	6	7:00:00	0	0	0	0	0
8:00:00	32	1091	14	1137	41	1568	8:00:00	33	334	64	431	16
9:00:00	56	1206	24	1286	36	1794	9:00:00	69	382	57	508	15
10:00:00	38	656	20	714	25	1212	10:00:00	39	379	80	498	9
15:00:00	1	6	1	8	0	9	15:00:00	0	1	0	1	0
16:00:00	49	749	50	848	29	2141	16:00:00	85	1016	192	1293	29
17:00:00	63	624	30	717	61	2285	17:00:00	130	1217	221	1568	25
18:00:00	72	628	35	735	58	2320	18:00:00	137	1227	221	1585	13
19:00:00	71	539	49	659	79	1984	19:00:00	111	1003	211	1325	20
							</					

Calculated Values for Traffic Crossing Major Street

Hours Ending:	8:00	9:00	10:00	15:00	16:00	17:00	18:00	19:00
Crossing Values:	230	333	244	7	367	403	390	407

Ontario Traffic Inc.

Count Date: 30-May-17 Site #: 1715800001

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	1	1	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	14	13	280	275	3	3	1	1	11	11	0	0	0	0	0	0	0	0	13	13
7:30:00	19	5	484	204	7	4	2	1	18	7	1	1	0	0	0	0	0	0	19	6
7:45:00	20	1	776	292	8	1	3	1	33	15	1	0	0	0	0	0	0	0	37	18
8:00:00	29	9	1053	277	11	3	4	1	43	10	3	2	0	0	0	0	0	0	41	4
8:15:00	37	8	1363	310	17	6	8	4	54	11	4	1	0	0	0	0	0	0	51	10
8:30:00	57	20	1692	329	26	9	12	4	65	11	6	2	0	0	0	0	0	0	61	10
8:45:00	65	8	1975	283	31	5	15	3	74	9	6	0	0	0	0	0	0	0	69	8
9:00:00	74	9	2215	240	32	1	15	0	87	13	6	0	0	0	0	0	0	0	77	8
9:15:00	80	6	2404	189	34	2	16	1	95	8	7	1	0	0	0	0	0	0	83	6
9:30:00	93	13	2556	152	39	5	16	0	105	10	7	0	0	0	0	0	0	0	87	4
9:45:00	97	4	2692	136	44	5	18	2	120	15	9	2	0	0	0	0	0	0	94	7
10:00:00	109	12	2828	136	49	5	18	0	130	10	9	0	0	0	0	0	0	0	102	8
10:00:23	110	1	2832	4	50	1	18	0	130	0	9	0	0	0	0	0	0	0	102	0
10:00:25	110	0	2832	0	50	0	18	0	130	0	9	0	0	0	0	0	0	0	102	0
15:00:00	110	0	2834	2	50	0	18	0	130	0	9	0	0	0	0	0	0	0	102	0
15:15:00	115	5	2947	113	63	13	19	1	140	10	9	0	0	0	1	1	0	0	110	8
15:30:00	129	14	3169	222	73	10	21	2	151	11	10	1	0	0	1	0	0	0	118	8
15:45:00	143	14	3358	189	88	15	21	0	166	15	11	1	0	0	1	0	0	0	123	5
16:00:00	156	13	3535	177	98	10	21	0	177	11	11	0	0	0	1	0	0	0	131	8
16:15:00	169	13	3683	148	104	6	22	1	191	14	13	2	0	0	1	0	0	0	145	14
16:30:00	179	10	3822	139	109	5	22	0	202	11	13	0	0	0	2	1	0	0	155	10
16:45:00	190	11	3948	126	114	5	22	0	208	6	14	1	0	0	2	0	0	0	174	19
17:00:00	218	28	4112	164	124	10	22	0	223	15	15	1	0	0	2	0	0	0	192	18
17:15:00	232	14	4261	149	129	5	22	0	236	13	16	1	0	0	3	1	0	0	209	

Count Date: 30-May-17 Site #: 1715800001

Ontario Traffic Inc.

Count Date: 30-May-17 **Site #:** 1715800001

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	24	24	8	7	6	6	1	1	0	0	1	1	0	0	0	0	0	0	3	3
7:30:00	52	28	11	3	13	7	1	0	1	1	1	0	0	0	0	0	0	0	6	3
7:45:00	82	30	19	8	30	17	3	2	1	0	2	1	0	0	0	0	0	0	11	5
8:00:00	109	27	32	13	42	12	7	4	1	0	3	1	0	0	0	0	0	0	21	10
8:15:00	149	40	46	14	55	13	8	1	1	0	7	4	0	0	0	0	0	0	26	5
8:30:00	180	31	62	16	65	10	10	2	2	1	9	2	0	0	0	0	0	0	33	7
8:45:00	221	41	91	29	78	13	14	4	2	0	10	1	0	0	0	0	0	0	39	6
9:00:00	262	41	107	16	87	9	16	2	2	0	11	1	0	0	0	0	0	0	53	14
9:15:00	282	20	112	5	93	6	17	1	2	0	12	1	0	0	0	0	0	0	64	11
9:30:00	310	28	123	11	99	6	17	0	2	0	13	1	0	0	0	0	0	0	79	15
9:45:00	349	39	133	10	110	11	17	0	2	0	16	3	0	0	0	0	0	0	84	5
10:00:00	384	35	143	10	112	2	18	1	2	0	17	1	0	0	0	0	0	0	99	15
10:00:23	384	0	143	0	112	0	18	0	2	0	17	0	0	0	0	0	0	0	99	0
10:00:25	384	0	143	0	112	0	18	0	2	0	17	0	0	0	0	0	0	0	99	0
15:00:00	384	0	143	0	113	1	18	0	2	0	17	0	0	0	0	0	0	0	99	0
15:15:00	424	40	170	27	132	19	19	1	5	3	17	0	0	0	0	0	0	0	124	25
15:30:00	453	29	191	21	147	15	20	1	6	1	19	2	0	0	0	0	0	0	154	30
15:45:00	478	25	211	20	163	16	20	0	6	0	20	1	0	0	0	0	0	0	174	20
16:00:00	517	39	257	46	184	21	21	1	8	2	20	0	0	0	0	0	0	0	186	12
16:15:00	568	51	287	30	210	26	22	1	8	0	20	0	0	0	0	0	0	0	210	24
16:30:00	592	24	325	38	231	21	22	0	8	0	22	2	0	0	0	0	0	0	224	14
16:45:00	623	31	351	26	243	12	22	0	8	0	24	2	0	0	0	0	0	0	243	19
17:00:00	655	32	369	18	253	10	22	0	8	0	24	0	0	0	0	0	0	0	261	18
17:15:00	695	40	398	29	267	14	22	0	8	0	25	1	0	0	0	0	0	0	280	19
17:30:00	731	36	427	29	27															

Count Date: 30-May-17 Site #: 1715800001

[illegible]

Ontario Traffic Inc.

Count Date: 30-May-17 Site #: 1715800001

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	6	6	62	62	17	17	0	0	5	5	1	1	0	0	0	0	0	0	0	0
7:30:00	9	3	136	74	28	11	0	0	13	8	2	1	0	0	0	0	0	0	6	6
7:45:00	22	13	206	70	42	14	1	1	23	10	4	2	0	0	0	0	0	0	11	5
8:00:00	31	9	300	94	60	18	2	1	34	11	4	0	0	0	0	0	0	0	16	5
8:15:00	51	20	390	90	71	11	2	0	44	10	4	0	0	0	0	0	0	0	22	6
8:30:00	66	15	477	87	86	15	3	1	51	7	5	1	0	0	0	0	0	0	25	3
8:45:00	81	15	561	84	99	13	4	1	63	12	6	1	0	0	0	0	0	0	30	5
9:00:00	98	17	644	83	115	16	4	0	72	9	6	0	0	0	0	0	0	0	31	1
9:15:00	106	8	726	82	135	20	4	0	86	14	6	0	0	0	0	0	0	0	31	0
9:30:00	118	12	813	87	158	23	4	0	98	12	7	1	0	0	0	0	0	0	31	0
9:45:00	128	10	889	76	180	22	5	1	112	14	8	1	0	0	0	0	0	0	36	5
10:00:00	135	7	968	79	193	13	6	1	127	15	8	0	0	0	0	0	0	0	40	4
10:00:23	135	0	968	0	193	0	6	0	127	0	8	0	0	0	0	0	0	0	40	0
10:00:25	135	0	969	1	193	0	6	0	127	0	8	0	0	0	0	0	0	0	40	0
15:00:00	135	0	969	0	193	0	6	0	127	0	8	0	0	0	0	0	0	0	40	0
15:15:00	155	20	1153	184	250	57	7	1	141	14	8	0	0	0	0	0	0	0	41	1
15:30:00	169	14	1420	267	284	34	7	0	153	12	9	1	0	0	0	0	0	0	54	13
15:45:00	186	17	1696	276	331	47	9	2	174	21	9	0	0	0	0	0	1	1	63	9
16:00:00	216	30	1928	232	383	52	10	1	184	10	9	0	0	0	0	0	1	0	69	6
16:15:00	239	23	2205	277	440	57	10	0	193	9	9	0	0	0	0	0	1	0	80	11
16:30:00	272	33	2488	283	499	59	10	0	205	12	10	1	0	0	0	0	1	0	86	6
16:45:00	305	33	2778	290	548	49	10	0	224	19	10	0	0	0	0	0	1	0	86	0
17:00:00	343	38	3097	319	602	54	13	3	232	8	11	1	0	0	0	0	1	0	94	8
17:15:00	377	34	3365	268	656	54	14	1	241	9	12	1	0	0	0	0	1	0	100	6
17:30:00	408																			

Count Date: 30-May-17 Site #: 1715800001

Ontario Traffic Inc.

Count Date: 30-May-17 **Site #:** 1715800001

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	2	2	8	8	27	27	1	1	0	0	0	0	0	0	0	0	0	0	2	2
7:30:00	6	4	18	10	55	28	1	0	0	0	0	0	0	0	0	0	0	0	5	3
7:45:00	15	9	25	7	81	26	2	1	1	1	0	0	0	0	0	0	0	0	9	4
8:00:00	19	4	35	10	111	30	2	0	1	0	0	0	0	0	0	0	0	0	12	3
8:15:00	30	11	47	12	146	35	3	1	3	2	0	0	0	0	0	0	0	0	12	0
8:30:00	42	12	63	16	172	26	3	0	5	2	0	0	0	0	0	0	0	0	15	3
8:45:00	57	15	88	25	191	19	3	0	7	2	1	1	0	0	0	0	0	0	19	4
9:00:00	60	3	104	16	211	20	4	1	9	2	1	0	0	0	0	0	0	0	20	1
9:15:00	67	7	113	9	236	25	4	0	9	0	1	0	0	0	0	0	0	0	21	1
9:30:00	74	7	123	10	253	17	4	0	9	0	1	0	0	0	0	0	0	0	23	2
9:45:00	84	10	137	14	270	17	6	2	9	0	1	0	0	0	0	0	0	0	26	3
10:00:00	94	10	153	16	287	17	7	1	9	0	3	2	0	0	0	0	0	0	28	2
10:00:23	95	1	157	4	289	2	7	0	9	0	3	0	0	0	0	0	0	0	28	0
10:00:25	95	0	157	0	289	0	7	0	9	0	3	0	0	0	0	0	0	0	28	0
15:00:00	95	0	159	2	289	0	7	0	9	0	3	0	0	0	0	0	0	0	28	0
15:15:00	108	13	189	30	306	17	7	0	9	0	3	0	0	0	0	0	0	0	35	7
15:30:00	115	7	209	20	343	37	7	0	10	1	3	0	0	0	0	0	0	0	37	2
15:45:00	137	22	235	26	357	14	7	0	11	1	3	0	0	0	0	0	0	0	42	5
16:00:00	147	10	268	33	374	17	8	1	11	0	5	2	0	0	0	0	0	0	45	3
16:15:00	164	17	291	23	394	20	8	0	13	2	5	0	0	0	0	0	0	0	46	1
16:30:00	176	12	306	15	416	22	9	1	13	0	5	0	0	0	0	0	0	0	47	1
16:45:00	193	17	331	25	438	22	10	1	13	0	5	0	0	0	0	0	0	0	52	5
17:00:00	210	17	372	41	454	16	11	1	13	0	5	0	0	0	0	0	0	0	58	6
17:15:00	221	11	407	35	475	21	11	0	13	0	6	1	0	0	0	0	0	0	59	1
17:30:00	228	7	422	15	487	12	11	0	13	0	7	1	0	0						

Count Date: 30-May-17 Site #: 1715800001

Attachment D

Level of Service Definitions

Two-Way Stop Controlled Intersections

Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	≤ 10	EXCELLENT. Large and frequent gaps in traffic on the main roadway. Queuing on the minor street is rare.
B	> 10 and ≤ 15	VERY GOOD. Many gaps exist in traffic on the main roadway. Queuing on the minor street is minimal.
C	> 15 and ≤ 25	GOOD. Fewer gaps exist in traffic on the main roadway. Delay on minor approach becomes more noticeable.
D	> 25 and ≤ 35	FAIR. Infrequent and shorter gaps in traffic on the main roadway. Queue lengths develop on the minor street.
E	> 35 and ≤ 50	POOR. Very infrequent gaps in traffic on the main roadway. Queue lengths become noticeable.
F	> 50	UNSATISFACTORY. Very few gaps in traffic on the main roadway. Excessive delay with significant queue lengths on the minor street.

Adapted from Highway Capacity Manual 2000, Transportation Research Board

Level of Service Definitions

Signalized Intersections

Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	≤ 10	EXCELLENT. Extremely favourable progression with most vehicles arriving during the green phase. Most vehicles do not stop and short cycle lengths may contribute to low delay.
B	> 10 and ≤ 20	VERY GOOD. Very good progression and/or short cycle lengths with slightly more vehicles stopping than LOS "A" causing slightly higher levels of average delay.
C	> 20 and ≤ 35	GOOD. Fair progression and longer cycle lengths lead to a greater number of vehicles stopping than LOS "B".
D	> 35 and ≤ 55	FAIR. Congestion becomes noticeable with higher average delays resulting from a combination of long cycle lengths, high volume-to-capacity ratios and unfavourable progression.
E	> 55 and ≤ 80	POOR. Lengthy delays values are indicative of poor progression, long cycle lengths and high volume-to-capacity ratios. Individual cycle failures are common with individual movement failures also common.
F	> 80	UNSATISFACTORY. Indicative of oversaturated conditions with vehicular demand greater than the capacity of the intersection.

Adapted from Highway Capacity Manual 2000, Transportation Research Board

Figure 2.3.3.4a Sight Distance for Crossing Movements and Vehicles Turning Left across Passenger Vehicle approaching from the Left

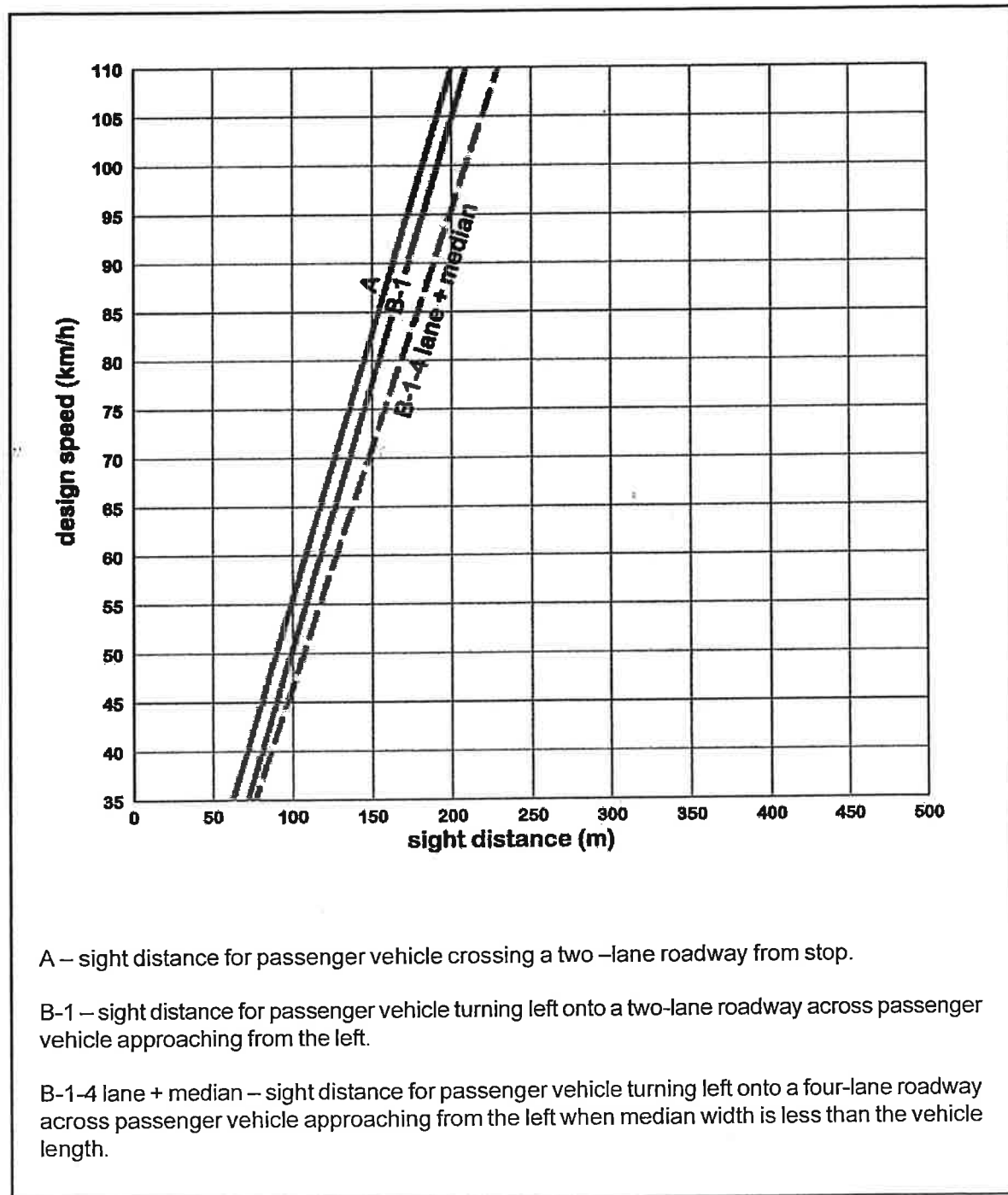
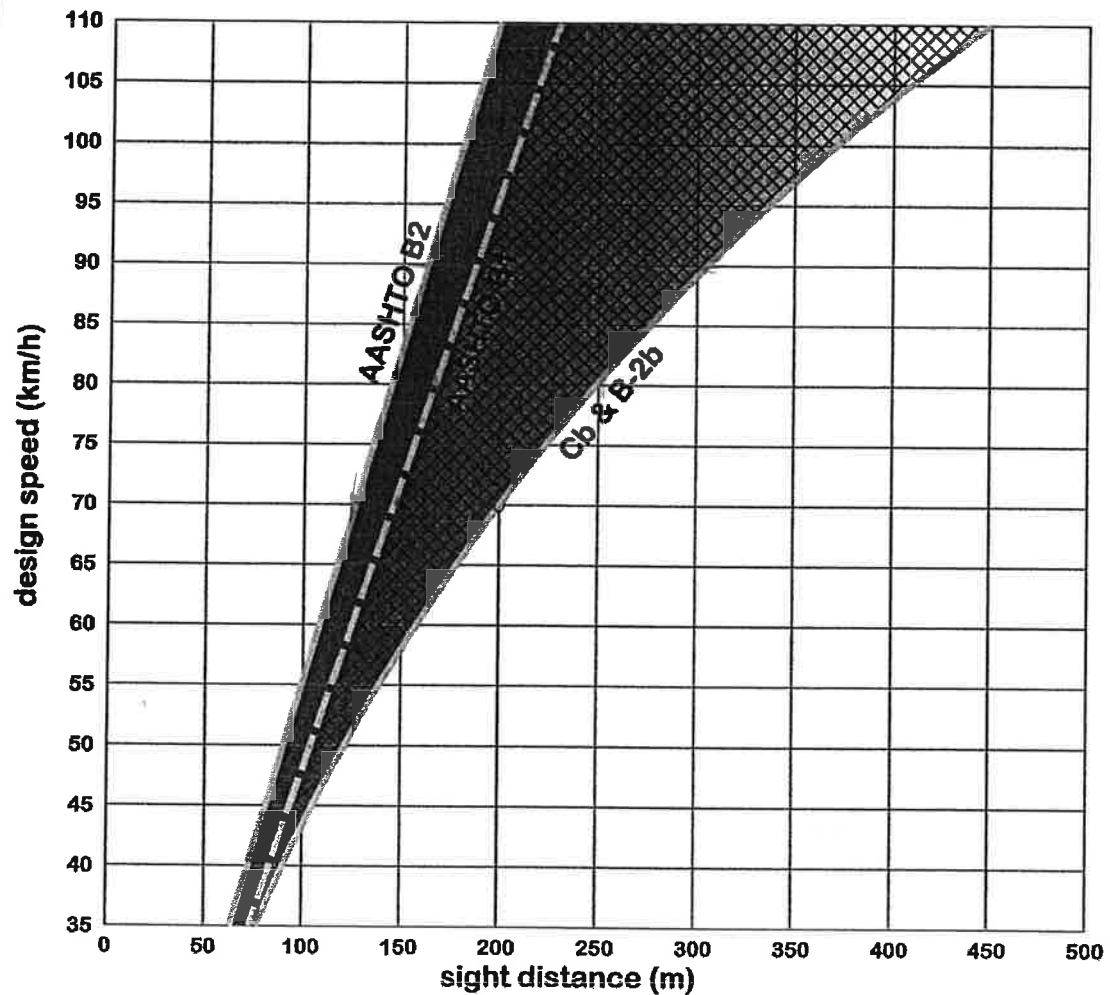


Figure 2.3.3.4b Sight Distance for Turning Movements with Vehicles approaching in the Intended Direction of Travel



Area bounded by AASHTO B1 and B-2b (crosshatched) – design domain for sight distance for passenger vehicle to turn left onto a two-lane roadway without being overtaken by a vehicle approaching from the right.

Area bounded by AASHTO B2 and Cb (shaded) – design domain for sight distance for passenger vehicle to turn right onto a two-lane roadway without being overtaken by a vehicle approaching from the left.

Attachment E

Lanes, Volumes, Timings
3: Goreway Drive & Etude Drive

2017 Existing AM
08/09/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	69	111	150	73	56	62	395	59	57	1240	28
Future Volume (vph)	43	69	111	150	73	56	62	395	59	57	1240	28
Ideal Flow (vphpl)	1900	1900	1640	1900	1900	1640	1900	1900	1640	1900	1900	1640
Storage Length (m)	55.0		0.0	35.0		0.0	0.0		0.0	25.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.97	0.98		0.98	0.98		1.00	0.99		0.98	1.00	
Frt		0.908			0.935			0.981			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1642	0	1706	1641	0	1738	3261	0	1508	3520	0
Flt Permitted	0.670			0.583			0.072			0.479		
Satd. Flow (perm)	1224	1642	0	1030	1641	0	132	3261	0	749	3520	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		68			32			24			2	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		237.8			202.3			57.3			147.3	
Travel Time (s)		17.1			14.6			3.4			8.8	
Confl. Peds. (#/hr)	32		19	19		32	10		28	28		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	9%	1%	7%	2%	14%	5%	10%	3%	21%	3%	18%
Adj. Flow (vph)	45	73	117	158	77	59	65	416	62	60	1305	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	190	0	158	136	0	65	478	0	60	1334	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	1.19	0.99	0.99	1.19	0.99	0.99	1.19	0.99	0.99	1.19
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	42.0	42.0		42.0	42.0		12.0	63.0		63.0	63.0	
Total Split (s)	42.0	42.0		42.0	42.0		15.0	63.0		63.0	63.0	
Total Split (%)	35.0%	35.0%		35.0%	35.0%		12.5%	52.5%		52.5%	52.5%	
Maximum Green (s)	35.0	35.0		35.0	35.0		8.0	56.0		56.0	56.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Walk Time (s)	13.0	13.0		13.0	13.0			42.0		42.0	42.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	

Lanes, Volumes, Timings
3: Goreway Drive & Etude Drive

2017 Existing AM
08/09/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	35.0	35.0		35.0	35.0		71.0	71.0		56.0	56.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.59	0.59		0.47	0.47	
v/c Ratio	0.13	0.36		0.53	0.27		0.35	0.25		0.17	0.81	
Control Delay	32.6	23.4		43.1	26.5		15.7	11.5		20.3	32.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	32.6	23.4		43.1	26.5		15.7	11.5		20.3	32.4	
LOS	C	C		D	C		B	B		C	C	
Approach Delay		25.2			35.4			12.0			31.8	
Approach LOS		C			D			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 10 (8%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 120

Control Type: Pretimed

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 27.3

Intersection LOS: C

Intersection Capacity Utilization 104.0%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 3: Goreway Drive & Etude Drive

 Ø2 (R)		 Ø4
63 s		42 s
 Ø5	 Ø6 (R)	 Ø8
15 s	63 s	42 s

Lanes, Volumes, Timings
3: Goreway Drive & Etude Drive

2017 Existing PM
08/09/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	124	72	145	107	45	145	1248	223	83	659	38
Future Volume (vph)	48	124	72	145	107	45	145	1248	223	83	659	38
Ideal Flow (vphpl)	1900	1900	1640	1900	1900	1640	1900	1900	1640	1900	1900	1640
Storage Length (m)	55.0		0.0	35.0		0.0	0.0		0.0	25.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.95	0.99		0.98	0.98		0.99	0.99		0.99	1.00	
Frt		0.945			0.956			0.977			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1773	0	1807	1772	0	1755	3424	0	1789	3380	0
Flt Permitted	0.631			0.556			0.269			0.110		
Satd. Flow (perm)	1127	1773	0	1041	1772	0	494	3424	0	206	3380	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			18			30			7	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		237.8			202.3			57.3			147.3	
Travel Time (s)		17.1			14.6			3.4			8.8	
Confl. Peds. (#/hr)	59		20	20		59	17		68	68		17
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	0%	3%	1%	1%	2%	4%	3%	1%	2%	7%	5%
Adj. Flow (vph)	51	131	76	153	113	47	153	1314	235	87	694	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	51	207	0	153	160	0	153	1549	0	87	734	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	1.19	0.99	0.99	1.19	0.99	0.99	1.19	0.99	0.99	1.19
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	39.0	39.0		39.0	39.0		11.0	63.0		63.0	63.0	
Total Split (s)	42.0	42.0		42.0	42.0		15.0	63.0		63.0	63.0	
Total Split (%)	35.0%	35.0%		35.0%	35.0%		12.5%	52.5%		52.5%	52.5%	
Maximum Green (s)	35.0	35.0		35.0	35.0		8.0	56.0		56.0	56.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Walk Time (s)	13.0	13.0		13.0	13.0			42.0		42.0	42.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	

Lanes, Volumes, Timings
3: Goreway Drive & Etude Drive

2017 Existing PM
08/09/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	35.0	35.0		35.0	35.0		71.0	71.0		56.0	56.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.59	0.59		0.47	0.47	
v/c Ratio	0.16	0.39		0.50	0.30		0.41	0.76		0.91	0.46	
Control Delay	33.2	32.2		42.3	31.0		14.4	20.9		103.4	22.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	33.2	32.2		42.3	31.0		14.4	20.9		103.4	22.8	
LOS	C	C		D	C		B	C		F	C	
Approach Delay		32.4			36.5			20.3			31.3	
Approach LOS		C			D			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 115

Control Type: Pretimed

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 25.9

Intersection LOS: C

Intersection Capacity Utilization 112.7%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 3: Goreway Drive & Etude Drive

 Ø2 (R)		 Ø4
63 s		42 s
 Ø5	 Ø6 (R)	 Ø8
15 s	63 s	42 s

Intersection: 3: Goreway Drive & Etude Drive

Movement	EB	EB	WB	WB	NB	NB	NB	B6	B10	B10	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	T	T	T	L	T
Maximum Queue (m)	44.5	65.8	37.2	76.4	24.9	45.8	48.2	2.0	2.2	13.6	27.3	147.8
Average Queue (m)	12.7	32.4	29.1	31.0	11.0	24.7	20.7	0.1	0.1	0.5	10.4	109.9
95th Queue (m)	29.5	54.8	42.1	64.5	21.2	42.7	40.3	1.4	1.6	5.6	26.3	149.4
Link Distance (m)		226.9		190.9	44.2	44.2	44.2	62.4	19.5	19.5		140.1
Upstream Blk Time (%)						0	0			0		2
Queuing Penalty (veh)						0	0			0		0
Storage Bay Dist (m)	55.0		35.0								25.0	
Storage Blk Time (%)	0	1	11	3							0	42
Queuing Penalty (veh)	0	0	14	4							1	24

Intersection: 3: Goreway Drive & Etude Drive

Movement	SB
Directions Served	TR
Maximum Queue (m)	133.5
Average Queue (m)	88.5
95th Queue (m)	128.2
Link Distance (m)	140.1
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: Bend

Movement	SB	SB
Directions Served	T	T
Maximum Queue (m)	3.1	5.8
Average Queue (m)	0.1	0.2
95th Queue (m)	2.2	3.0
Link Distance (m)	54.0	54.0
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 43

Intersection: 3: Goreway Drive & Etude Drive

Movement	EB	EB	WB	WB	NB	NB	NB	B6	B6	B11	B10	B10
Directions Served	L	TR	L	TR	L	T	TR	T	T	T	T	T
Maximum Queue (m)	52.7	75.5	37.3	73.1	44.9	66.1	63.8	48.2	52.6	55.4	31.1	32.5
Average Queue (m)	13.2	34.3	28.1	32.3	19.5	58.3	58.3	21.3	22.3	4.7	16.0	22.6
95th Queue (m)	31.4	58.8	41.4	59.7	36.2	66.8	66.5	44.7	46.8	32.6	31.8	33.6
Link Distance (m)		226.9		190.9	44.2	44.2	44.2	62.4	62.4	54.0	19.5	19.5
Upstream Blk Time (%)					0	20	23			0	6	19
Queuing Penalty (veh)					0	0	0			0	0	0
Storage Bay Dist (m)	55.0		35.0									
Storage Blk Time (%)	0	1	8	5								
Queuing Penalty (veh)	0	1	12	7								

Intersection: 3: Goreway Drive & Etude Drive

Movement	B10	SB	SB	SB
Directions Served		L	T	TR
Maximum Queue (m)	21.7	27.3	131.6	119.8
Average Queue (m)	9.0	23.1	93.0	78.1
95th Queue (m)	22.0	33.9	157.3	144.4
Link Distance (m)	19.5		140.1	140.1
Upstream Blk Time (%)	1		13	3
Queuing Penalty (veh)	0		0	0
Storage Bay Dist (m)		25.0		
Storage Blk Time (%)		48	26	
Queuing Penalty (veh)		156	22	

Intersection: 6: Bend

Movement	SB
Directions Served	T
Maximum Queue (m)	2.2
Average Queue (m)	0.1
95th Queue (m)	1.5
Link Distance (m)	44.2
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 198

Lanes, Volumes, Timings
3: Etude Drive

2017 Total AM
10/05/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	69	118	150	73	56	64	395	59	57	1240	28
Future Volume (vph)	45	69	118	150	73	56	64	395	59	57	1240	28
Ideal Flow (vphpl)	1900	1900	1640	1900	1900	1640	1900	1900	1640	1900	1900	1640
Storage Length (m)	55.0		0.0	35.0		0.0	0.0		0.0	25.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.97	0.98		0.99	0.98		1.00	0.99		0.99	1.00	
Frt		0.906			0.935			0.981			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1640	0	1706	1642	0	1738	3262	0	1508	3520	0
Flt Permitted	0.670			0.532			0.112			0.479		
Satd. Flow (perm)	1226	1640	0	941	1642	0	205	3262	0	749	3520	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		74			33			26			3	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		54.0			202.3			57.3			147.3	
Travel Time (s)		3.9			14.6			3.4			8.8	
Confl. Peds. (#/hr)	32		19	19		32	10		28	28		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	9%	1%	7%	2%	14%	5%	10%	3%	21%	3%	18%
Adj. Flow (vph)	47	73	124	158	77	59	67	416	62	60	1305	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	197	0	158	136	0	67	478	0	60	1334	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	1.19	0.99	0.99	1.19	0.99	0.99	1.19	0.99	0.99	1.19
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
3: Etude Drive

2017 Total AM
10/05/2017

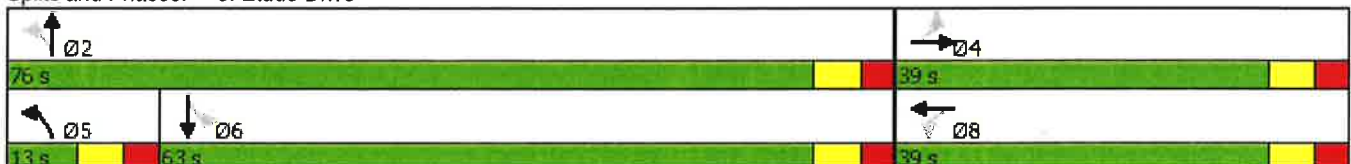
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	39.0	39.0		39.0	39.0		11.0	63.0		63.0	63.0	
Total Split (s)	39.0	39.0		39.0	39.0		13.0	76.0		63.0	63.0	
Total Split (%)	33.9%	33.9%		33.9%	33.9%		11.3%	66.1%		54.8%	54.8%	
Maximum Green (s)	32.0	32.0		32.0	32.0		6.0	69.0		56.0	56.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	13.0	13.0		13.0	13.0			42.0		42.0	42.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)	21.2	21.2		21.2	21.2		69.3	69.3		59.1	59.1	
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.66	0.66		0.57	0.57	
v/c Ratio	0.19	0.50		0.83	0.38		0.30	0.22		0.14	0.67	
Control Delay	35.1	26.5		72.5	29.2		11.3	7.7		15.5	20.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	35.1	26.5		72.5	29.2		11.3	7.7		15.5	20.3	
LOS	D	C		E	C		B	A		B	C	
Approach Delay		28.2			52.4			8.1			20.1	
Approach LOS		C			D			A			C	

Intersection Summary

Area Type: Other
 Cycle Length: 115
 Actuated Cycle Length: 104.6
 Natural Cycle: 115
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 22.1
 Intersection Capacity Utilization 97.9%
 Analysis Period (min) 15

Intersection LOS: C
 ICU Level of Service F

Splits and Phases: 3: Etude Drive



Intersection: 3: Etude Drive

Movement	EB	EB	WB	WB	NB	NB	NB	B6	B10	B10	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	T	T		L	T
Maximum Queue (m)	38.9	43.6	37.3	107.2	26.6	52.2	52.7	1.8	11.6	2.6	27.2	144.0
Average Queue (m)	11.7	25.2	29.7	33.0	12.7	25.1	21.6	0.1	0.5	0.1	9.4	92.4
95th Queue (m)	28.6	44.2	42.4	75.4	22.7	44.9	43.5	1.5	5.1	1.6	23.8	137.0
Link Distance (m)		39.6		190.9	44.2	44.2	44.2	62.4	19.5	19.5		140.2
Upstream Blk Time (%)	0	5				1	1		0			1
Queuing Penalty (veh)	0	11				0	0		0			0
Storage Bay Dist (m)	55.0		35.0								25.0	
Storage Blk Time (%)	0	5	14	3							0	33
Queuing Penalty (veh)	0	2	18	5							2	19

Intersection: 3: Etude Drive

Movement	SB
Directions Served	TR
Maximum Queue (m)	118.0
Average Queue (m)	73.2
95th Queue (m)	113.2
Link Distance (m)	140.2
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Full Moves

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (m)	40.6	2.2	9.1
Average Queue (m)	4.1	0.1	2.4
95th Queue (m)	21.8	1.4	9.0
Link Distance (m)	146.2	39.6	43.8
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 56

Intersection

Int Delay, s/veh 0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	223	0	2	163	1	9
Future Vol, veh/h	223	0	2	163	1	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	223	0	2	163	1	9

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	223
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	4.12	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.218	-
Pot Cap-1 Maneuver	-	1346	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1346	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	798	-	-	1346	-
HCM Lane V/C Ratio	0.013	-	-	0.001	-
HCM Control Delay (s)	9.6	-	-	7.7	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Lanes, Volumes, Timings
3: Etude Drive & Goreway Drive

2017 Total PM
10/05/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	124	75	145	107	45	151	1248	223	83	659	39
Future Volume (vph)	49	124	75	145	107	45	151	1248	223	83	659	39
Ideal Flow (vphpl)	1900	1900	1640	1900	1900	1640	1900	1900	1640	1900	1900	1640
Storage Length (m)	55.0		0.0	35.0		0.0	0.0		0.0	25.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.97	0.99		0.99	0.99		1.00	0.99		1.00	1.00	
Frt		0.944			0.956			0.977			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1690	0	1706	1717	0	1738	3250	0	1508	3481	0
Flt Permitted	0.621			0.509			0.301			0.133		
Satd. Flow (perm)	1138	1690	0	901	1717	0	549	3250	0	211	3481	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			18			32			7	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		53.6			202.3			57.3			147.3	
Travel Time (s)		3.9			14.6			3.4			8.8	
Confl. Peds. (#/hr)	32		19	19		32	10		28	28		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	9%	1%	7%	2%	14%	5%	10%	3%	21%	3%	18%
Adj. Flow (vph)	52	131	79	153	113	47	159	1314	235	87	694	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	210	0	153	160	0	159	1549	0	87	735	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	1.19	0.99	0.99	1.19	0.99	0.99	1.19	0.99	0.99	1.19
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
3: Etude Drive & Goreway Drive

2017 Total PM
10/05/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	39.0	39.0		39.0	39.0		11.0	62.5		63.0	63.0	
Total Split (s)	39.0	39.0		39.0	39.0		11.0	76.0		65.0	65.0	
Total Split (%)	33.9%	33.9%		33.9%	33.9%		9.6%	66.1%		56.5%	56.5%	
Maximum Green (s)	32.0	32.0		32.0	32.0		4.0	69.5		58.0	58.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	3.5		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	6.5		7.0	7.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	13.0	13.0		13.0	13.0			42.0		42.0	42.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)	21.3	21.3		21.3	21.3		69.3	69.8		58.2	58.2	
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.66	0.67		0.56	0.56	
v/c Ratio	0.23	0.58		0.84	0.44		0.39	0.71		0.74	0.38	
Control Delay	36.0	38.7		74.8	35.3		11.2	14.4		60.5	14.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	36.0	38.7		74.8	35.3		11.2	14.4		60.5	14.6	
LOS	D	D		E	D		B	B		E	B	
Approach Delay		38.2			54.6			14.1			19.4	
Approach LOS		D			D			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 115
 Actuated Cycle Length: 104.6
 Natural Cycle: 115
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 21.6
 Intersection Capacity Utilization 105.2%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service G

Splits and Phases: 3: Etude Drive & Goreway Drive

 Ø2	 Ø4
76 s	39 s
 Ø5	 Ø8
11 s	39 s
 Ø6	
65 s	

Intersection: 3: Etude Drive & Goreway Drive

Movement	EB	EB	WB	WB	NB	NB	NB	B6	B6	B6	B11	B11
Directions Served	L	TR	L	TR	L	T	TR	T	T	T	T	T
Maximum Queue (m)	38.5	42.8	37.3	124.7	60.3	70.0	70.2	15.6	48.8	52.3	24.2	74.3
Average Queue (m)	13.6	31.4	28.6	40.4	24.3	59.2	58.7	0.7	21.6	21.7	1.3	22.0
95th Queue (m)	33.4	49.4	43.9	95.3	47.0	70.5	71.1	7.0	44.9	46.9	15.4	75.1
Link Distance (m)		38.8		190.9	44.2	44.2	44.2	62.4	62.4	62.4	54.0	54.0
Upstream Blk Time (%)	0	9			3	18	21		0	0	0	2
Queuing Penalty (veh)	0	23			0	0	0		0	0	0	0
Storage Bay Dist (m)	55.0		35.0									
Storage Blk Time (%)	0	9	15	6								
Queuing Penalty (veh)	0	5	23	9								

Intersection: 3: Etude Drive & Goreway Drive

Movement	B10	B10	B10	SB	SB	SB
Directions Served	T	T		L	T	TR
Maximum Queue (m)	31.2	34.2	25.4	27.4	155.8	147.8
Average Queue (m)	12.9	21.6	10.3	26.5	134.4	116.5
95th Queue (m)	31.8	39.5	25.3	29.9	172.0	163.1
Link Distance (m)	19.5	19.5	19.5		140.0	140.0
Upstream Blk Time (%)	4	20	2		36	3
Queuing Penalty (veh)	0	0	0		0	0
Storage Bay Dist (m)				25.0		
Storage Blk Time (%)				75	37	
Queuing Penalty (veh)				247	31	

Intersection: 8: Access

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (m)	40.8	17.6	9.1
Average Queue (m)	6.4	0.8	1.0
95th Queue (m)	24.3	6.7	5.6
Link Distance (m)	146.2	38.8	59.1
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 337

Intersection

Int Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↶	↷
Traffic Vol, veh/h	244	1	7	290	0	4
Future Vol, veh/h	244	1	7	290	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	92	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	257	1	7	315	0	4

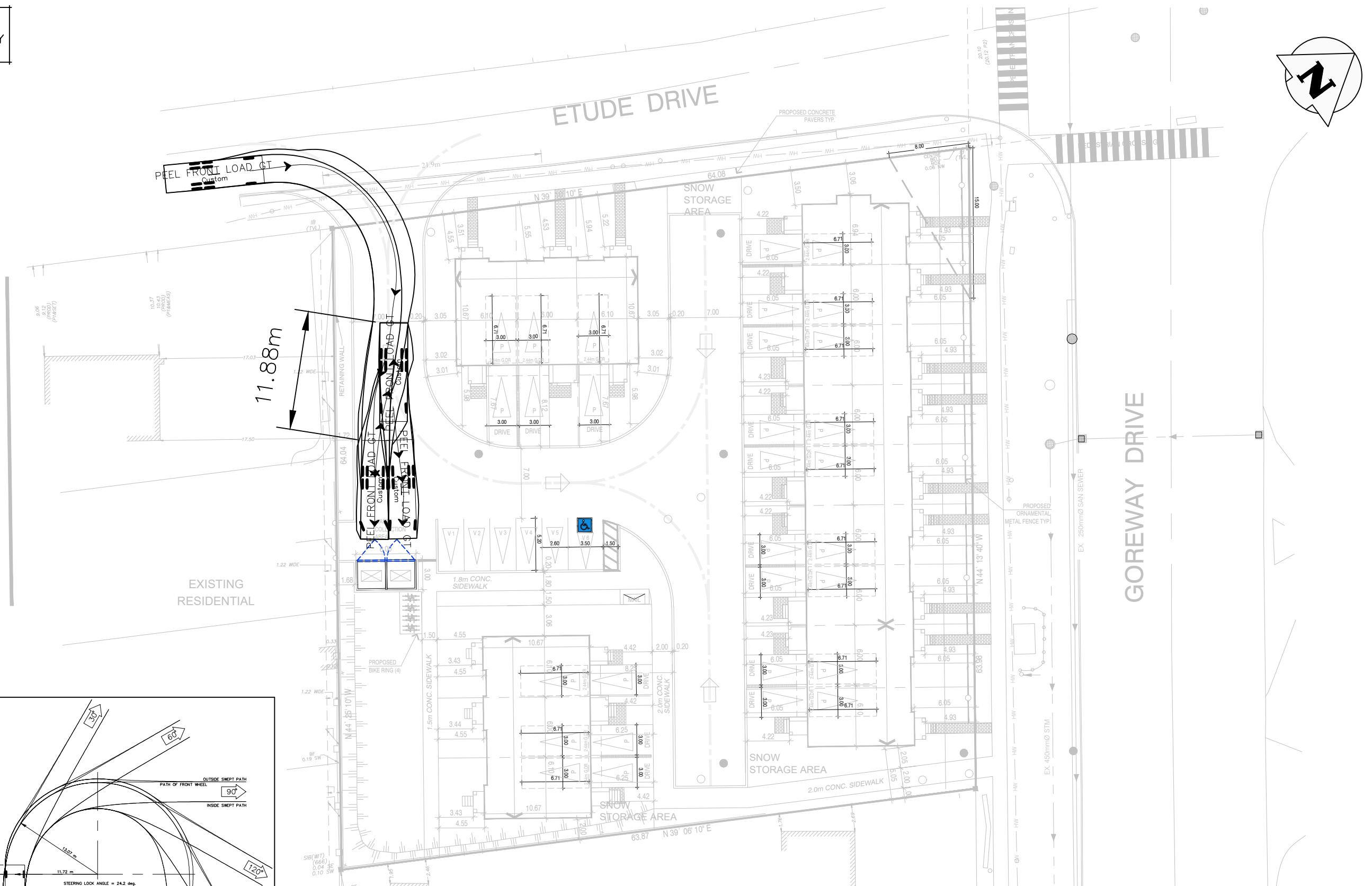
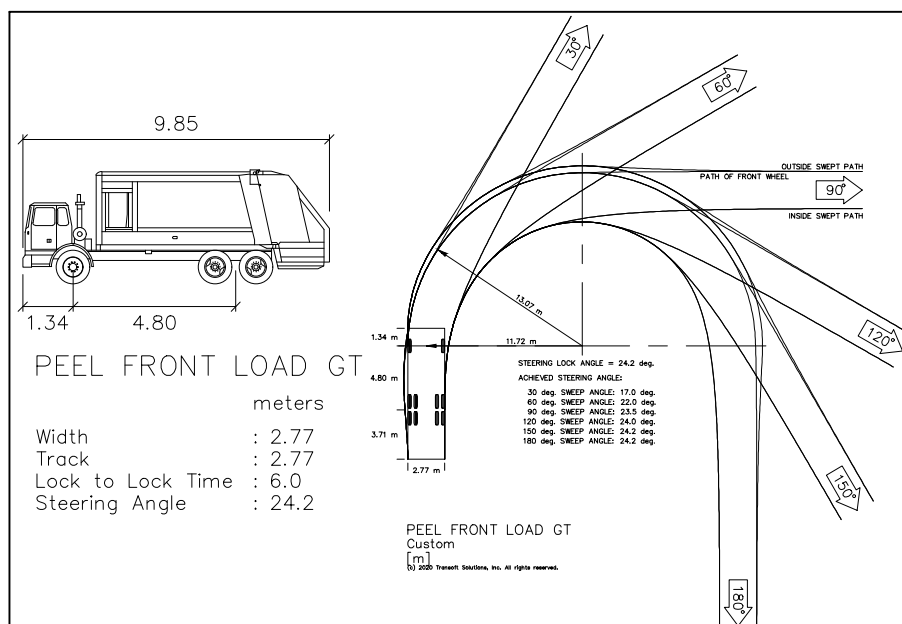
Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	258
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1307
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1307
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	782	-	-	1307	-
HCM Lane V/C Ratio	0.005	-	-	0.006	-
HCM Control Delay (s)	9.6	-	-	7.8	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Attachment F

NOTE:
THIS FIGURE IS SCHEMATIC ONLY
AND IS NOT TO BE SCALED.



7170 GOREWAY DRIVE
CITY OF MISSISSAUGA

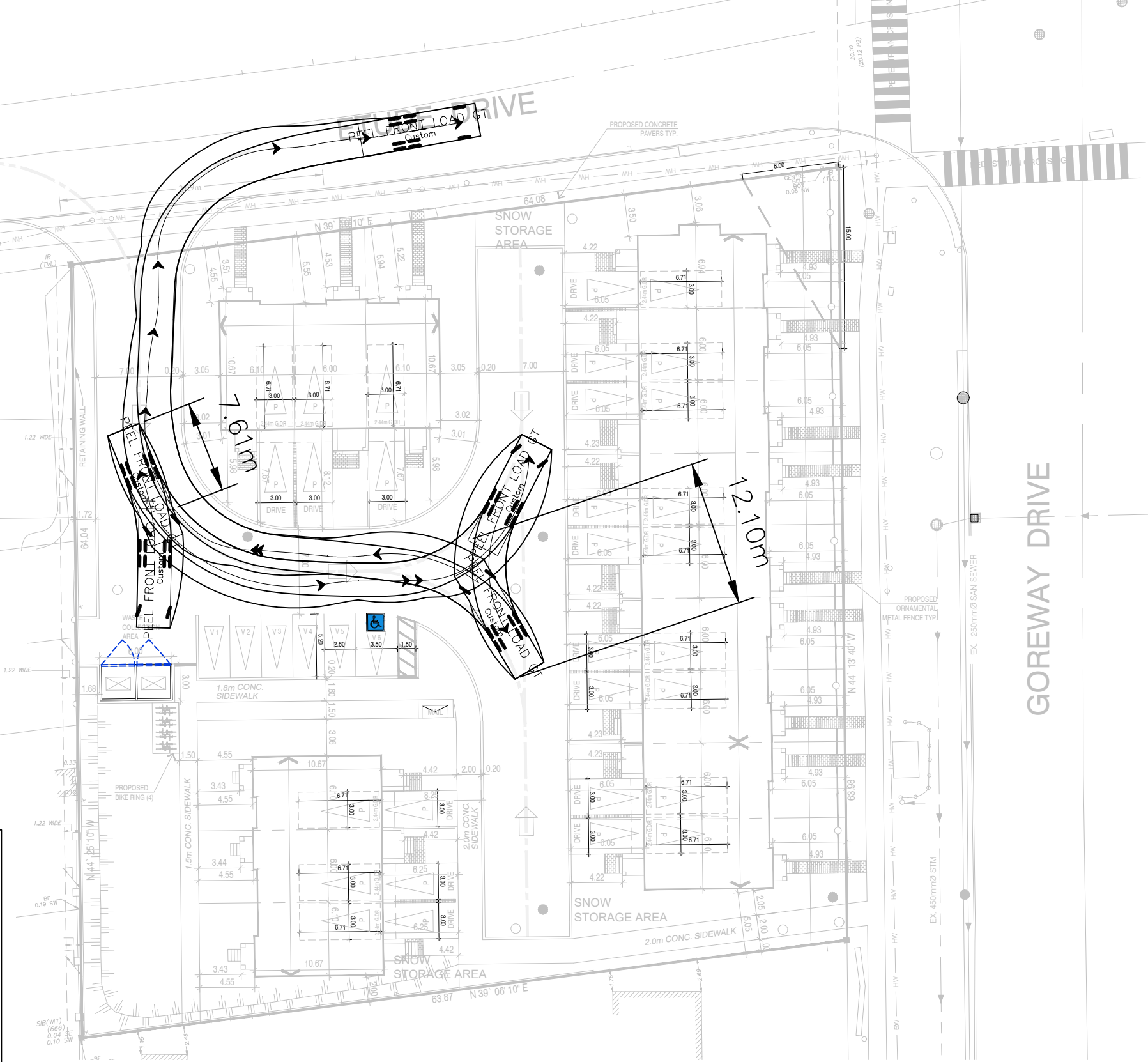
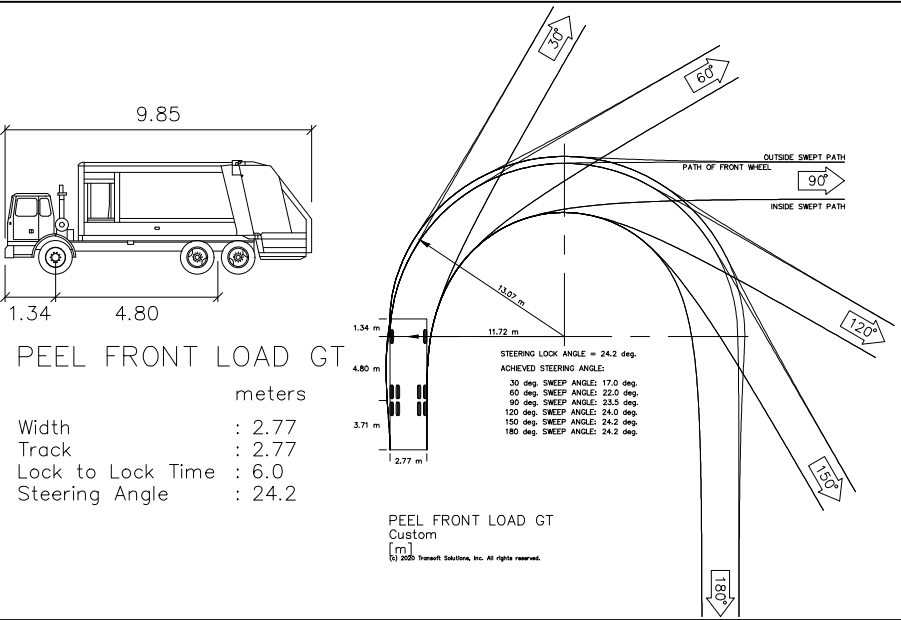
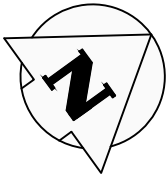
WASTE COLLECTION TRUCK TURNING PLAN



2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn	S.K.	Design	Project No. 1346-4573	
Check	P.A.	Check	Scale N.T.S.	Dwg. T 01

NOTE:
THIS FIGURE IS SCHEMATIC ONLY
AND IS NOT TO BE SCALED.



7170 GOREWAY DRIVE
CITY OF MISSISSAUGA

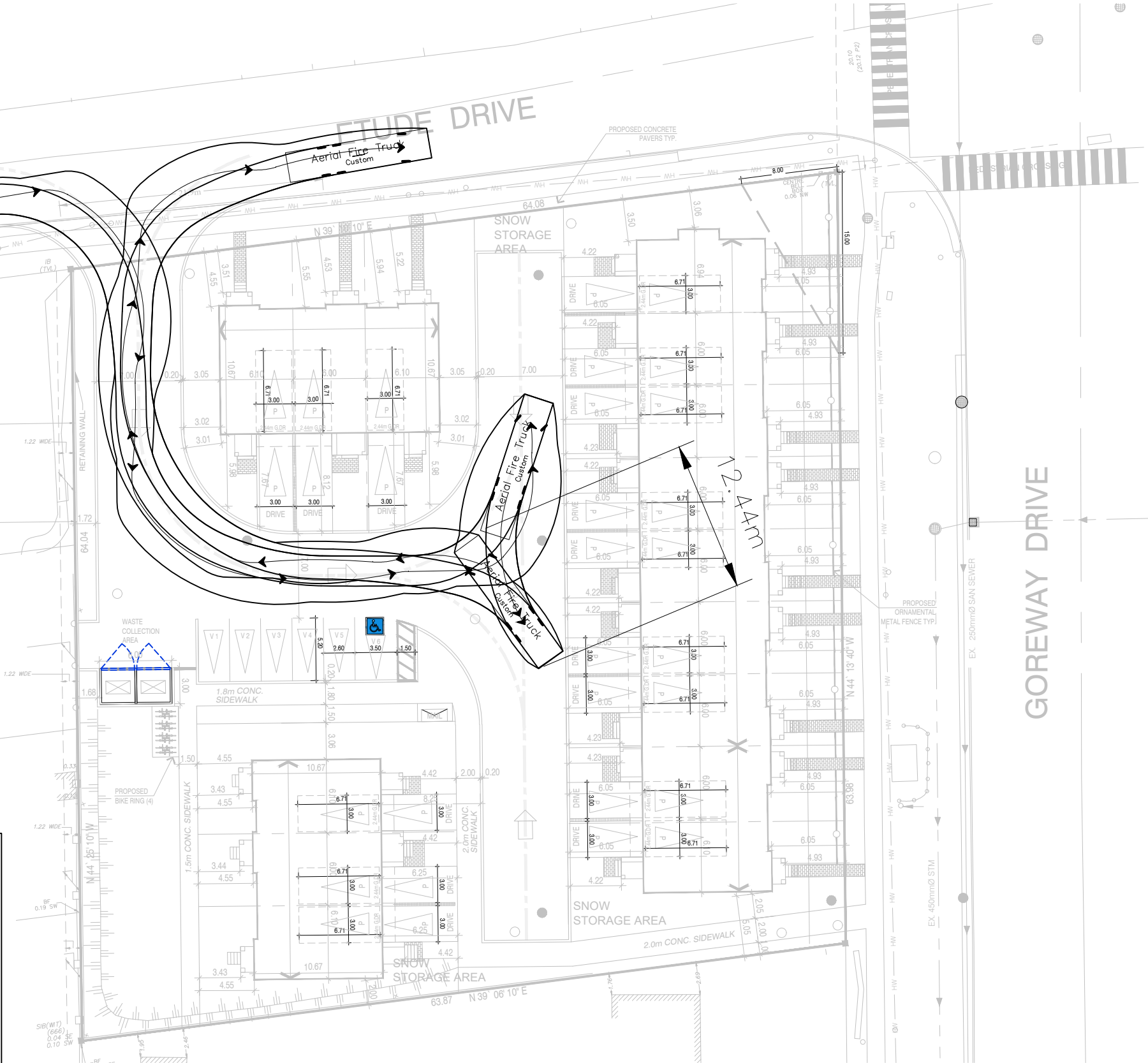
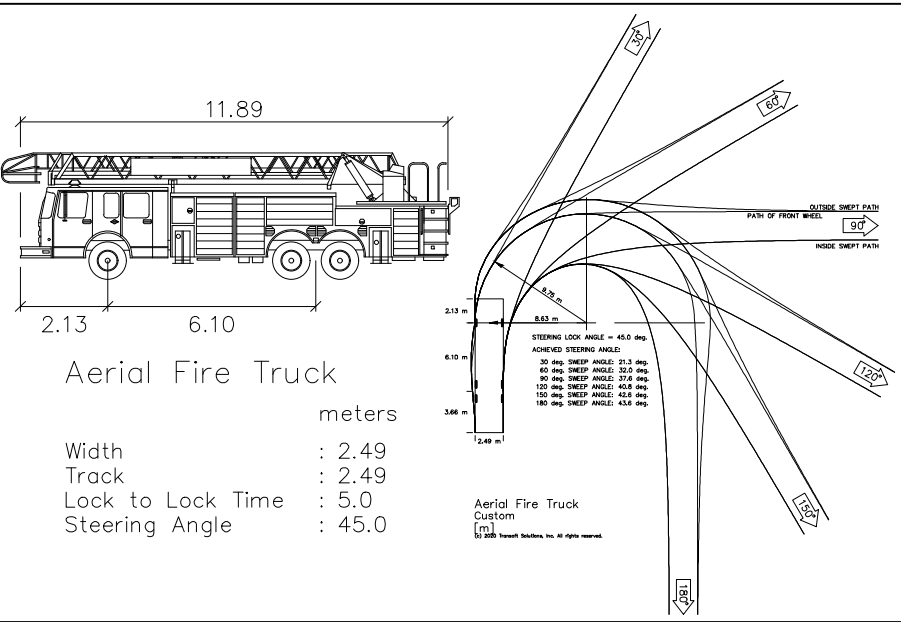
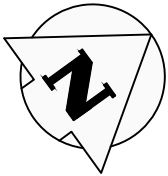
WASTE COLLECTION TRUCK TURNING PLAN

**CROZIER**
CONSULTING ENGINEERS

2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn	S.K.	Design	Project No.	1346-4573
Check	P.A.	Check	Scale	N.T.S.
			Dwg.	T 02

NOTE:
THIS FIGURE IS SCHEMATIC ONLY
AND IS NOT TO BE SCALED.



7170 GOREWAY DRIVE
CITY OF MISSISSAUGA

FIRE TRUCK TURNING PLAN

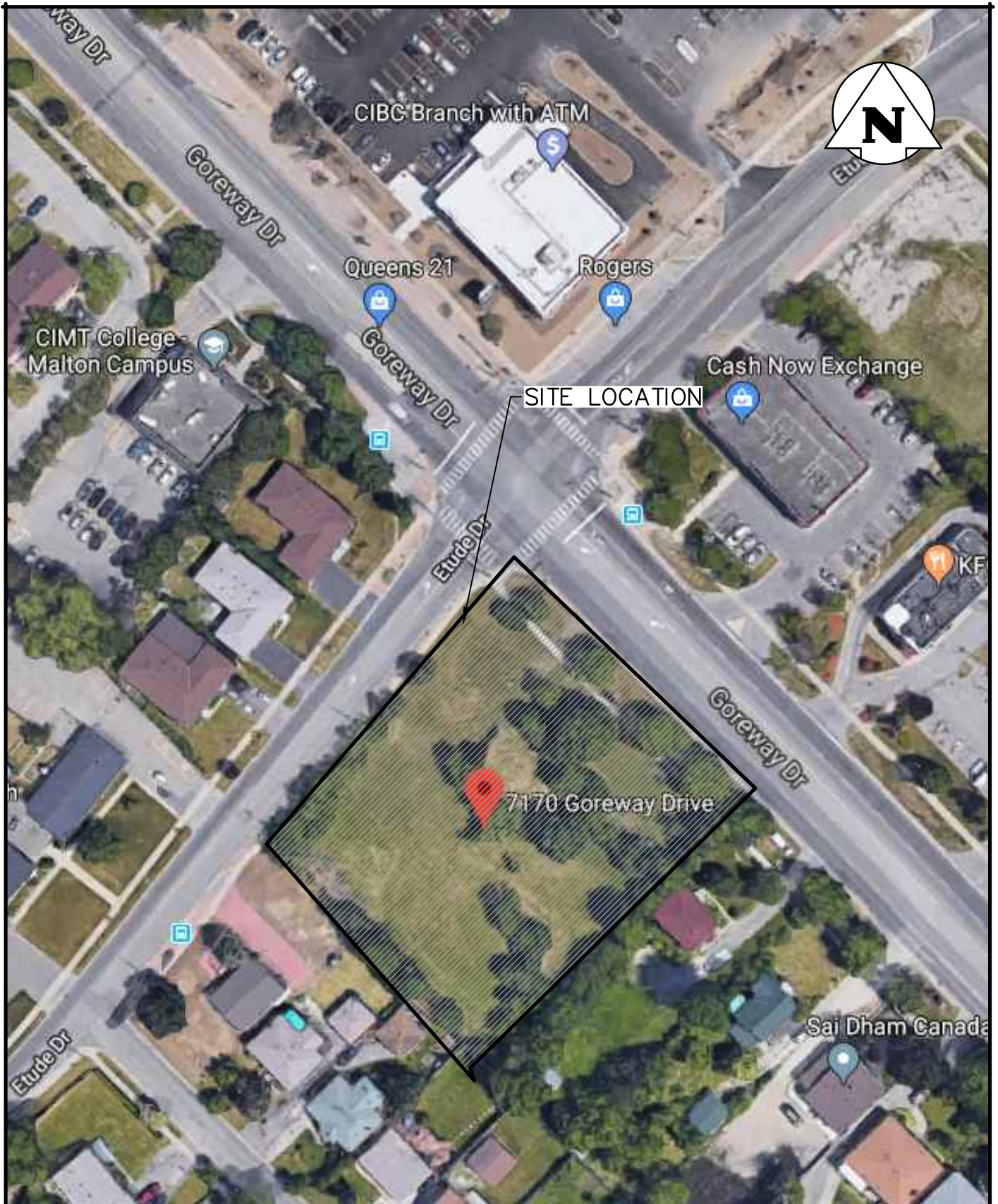


CROZIER
CONSULTING ENGINEERS

2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn	S.K.	Design	Project No.	1346-4573
Check	P.A.	Check	Scale	N.T.S.
			Dwg.	T 03

FIGURES



RESIDENTIAL DEVELOPMENT
7170 GOREWAY DRIVE
CITY OF MISSISSAUGA

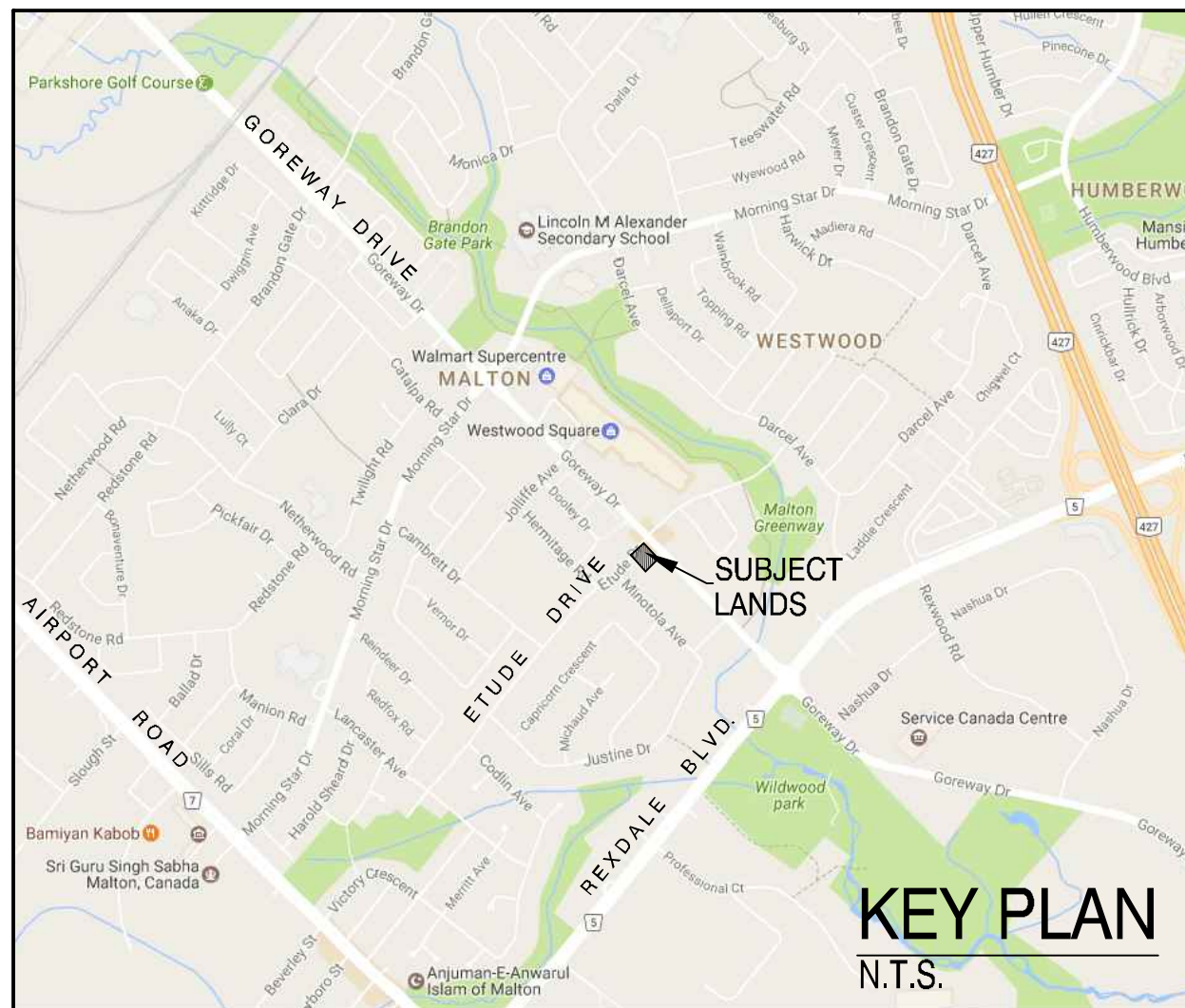
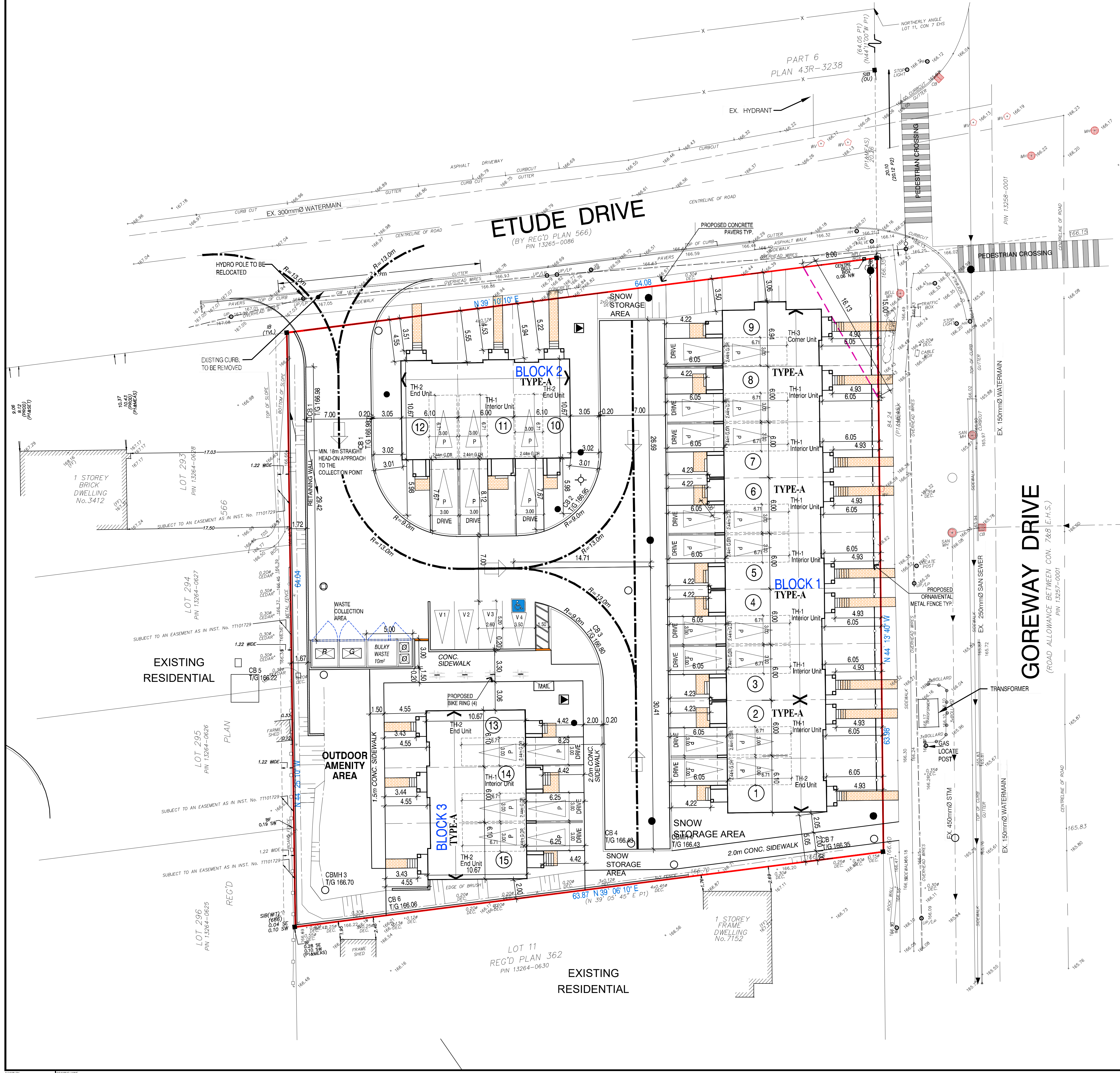
SITE LOCATION



**CROZIER
& ASSOCIATES**
Consulting Engineers

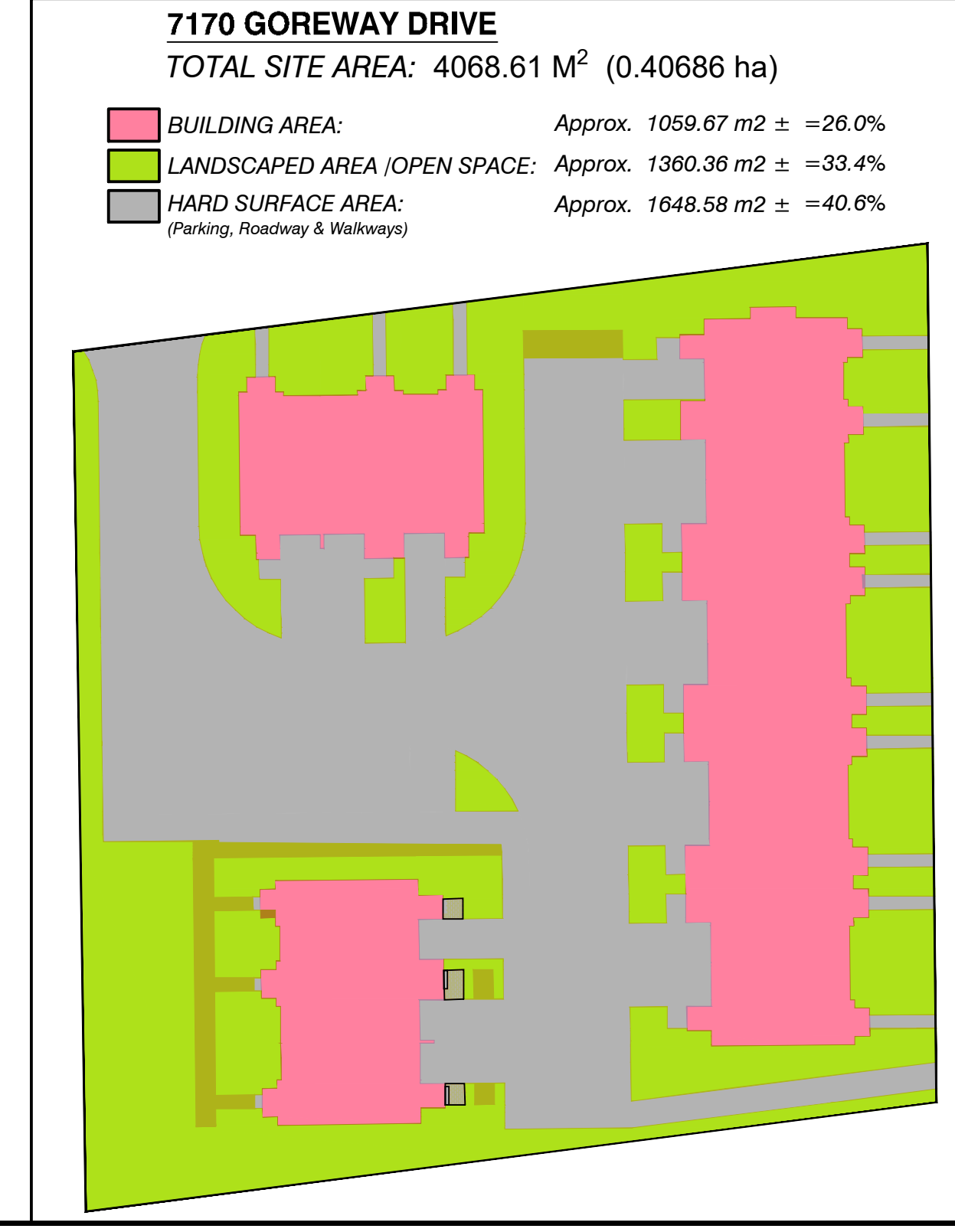
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905 875-0026 T
905 875-4915 F
WWW.CFCROZIER.CA

Drawn	P.A.	Design	P.A.	Project No.	1346-4573
Check	R.A.W.	Check	R.A.W.	Scale	N.T.S.
				Dwg.	FIG. 01



LOT SUMMARY				
LOT CATEGORY	ENDS	INTERNAL	CORNER	TOTAL
6.0m x 30.2m lots (19%) TYPE-A (Street Facing Townhouse)	5	9	1	15
TOTAL				
	5	9	1	15

OVERALL SITE STATISTICS									
TOTAL SITE AREA					4068.61 m ² / (0.40686 Ha)				
TOTAL UNITS					15 (3 STOREY UNITS)				
BLOCK 1	MODEL	LOT	BUILDING	BUILDING	UNIT G.F.A.	COVERAGE	COVERAGE	COVERAGE	LOT AREA
UNIT No.	TYPE	FRONTAGE	HEIGHT	HEIGHT	(m ²)	W/ PORCH	W/ PORCH	PERCENTAGE	(m ²)
1	TH-2 (End)	9.16	0.0	0.0	167.77	69.86	64.19	32.10	199.94
2	TH-1 (Interior)	6.00	0.0	0.0	164.51	70.40	62.77	45.99	136.50
3	TH-1 (Interior)	6.00	0.0	0.0	164.51	70.40	62.77	45.99	136.50
4	TH-1 (Interior)	6.00	0.0	0.0	164.51	70.40	62.77	45.99	136.50
5	TH-1 (Interior)	6.00	0.0	0.0	164.51	70.40	62.77	45.99	136.50
6	TH-1 (Interior)	6.00	0.0	0.0	164.51	70.40	62.77	45.99	136.50
7	TH-1 (Interior)	6.00	0.0	0.0	164.51	70.40	62.77	45.99	136.50
8	TH-1 (Interior)	6.00	0.0	0.0	164.51	70.40	62.77	45.99	136.50
9	TH-3 (Corner)	10.93	0.0	0.0	178.67	69.87	64.20	27.55	233.00
TOTAL:		62.09 m	0.00 m	0.00 m	1498.01 m ²	632.53 m ²	567.78 m ²	42.40%	1388.44 m ²
BLOCK 2	MODEL	LOT	BUILDING	BUILDING	UNIT G.F.A.	COVERAGE	COVERAGE	COVERAGE	LOT AREA
UNIT No.	TYPE	FRONTAGE	HEIGHT	HEIGHT	(m ²)	W/ PORCH	W/ PORCH	PERCENTAGE	(m ²)
10	TH-2 (End)	9.15	0.0	0.0	167.77	69.86	64.19	29.89	214.75
11	TH-1 (Interior)	6.00	0.0	0.0	164.51	70.40	62.77	42.88	146.38
12	TH-2 (End)	9.15	0.0	0.0	167.77	69.86	64.19	32.40	198.12
TOTAL:		24.30 m	0.00 m	0.00 m	500.05 m ²	210.12 m ²	191.15 m ²	17.5%	559.25 m ²
BLOCK 3	MODEL	LOT	BUILDING	BUILDING	UNIT G.F.A.	COVERAGE	COVERAGE	COVERAGE	LOT AREA
UNIT No.	TYPE	FRONTAGE	HEIGHT	HEIGHT	(m ²)	W/ PORCH	W/ PORCH	PERCENTAGE	(m ²)
13	TH-2 (End)	9.15	0.0	0.0	167.77	69.86	64.19	22.38	286.76
14	TH-1 (Interior)	6.00	0.0	0.0	164.51	70.40	62.77	33.41	187.90
15	TH-2 (End)	9.15	0.0	0.0	167.77	69.86	64.19	19.48	259.51
TOTAL:		24.30 m	0.00 m	0.00 m	500.05 m ²	210.12 m ²	191.15 m ²	25.1%	804.17 m ²
TOTAL AREAS:					2498.11 m ²	1052.77 m ²	950.08 m ²	26.13%	2751.86 m ²
PARKING						PROVIDED	REQUIRED		
BLOCK 1, 2 & 3 (1 SPACE IN GARAGE AND 1 SPACE ON DRIVEWAY)						30 SPACES	30 SPACES		
VISITORS PARKING (0.25 PER UNIT) (WITH 1 ACCESSIBLE SPACE)						4 SPACES	3.5 SPACES		
TOTAL						34 SPACES	33.5 SPACES		
NOTE:									
COMMON AMENITY SPACES					233.1 m ² (2494 SQ.FT.)				
AMENITY SPACE PROVIDED 3 STOREY STREET TOWNS					12.62 m ² (136 SQ.FT.) PER UNIT (TERRACE)				



LEGEND	
---	STORM CONNECTION
---	SANITARY CONNECTION
---	WATER CONNECTION
---	HYDRO CONNECTION
---	DOUBLE CATCH BASIN
---	CATCH BASIN
---	STREET LIGHT
---	HYDRANT
---	TRANSFORMER
---	CABLE TV PEDESTAL
---	BELL PEDESTAL
---	ENTRANCE DOOR LOCATION
---	GARAGE DOOR LOCATION
---	COMMUNITY MAILBOX
---	ENGINEERED FILL LOT
---	VALVE AND CHAMBER
---	SANITARY MANHOLE
---	STORM MANHOLE
---	AIR-CONDITIONING UNIT
---	PROPOSED GRADE
---	EXISTING GRADE
---	PROPOSED SWALE GRADE
---	DOWNSPOUT LOCATION
---	TELECOM. JUNCTION BOX
---	PROPOSED BERM
---	SWALE DIRECTION
---	GAS METER
---	HYDRO METER
---	FINISHED FLOOR ELEVATION
---	TOP OF FOUNDATION WALL
---	FIN. BASEMENT FLOOR SLAB
---	UNDERSIDE FOOTING ELEVATION

THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF MISSISSAUGA AND THE PROVINCE OF ONTARIO PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURACY OF ALL SURVEY DATA AND FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF MISSISSAUGA AND THE PROVINCE OF ONTARIO PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURACY OF ALL SURVEY DATA AND FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF MISSISSAUGA AND THE PROVINCE OF ONTARIO PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURACY OF ALL SURVEY DATA AND FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF MISSISSAUGA AND THE PROVINCE OF ONTARIO PRIOR TO COMMENCING CONSTRUCTION.

PART OF LOT 11 CONCESSION 7
EAST OF HURONTARIO STREET
GEOGRAPHIC TOWNSHIP OF
TORONTO CITY OF MISSISSAUGA
MUNICIPALITY OF PEELE

BENCHMARK
Elevations are Geoidic and are referred to the Canadian Geoidic Datum Benchmark No. 446, having an Elevation of 182.25m.

SCALE 1:200
0m 5m 10m

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

16		
15		
14		
13		
12		
11		
10		
9	JUNE 16, 2021	ISSUED FOR SPA SUBMISSION
8	MAY 26, 2021	REVISED & ISSUED TO WESTON CONSULTING FOR REVIEW
7	MAY 21, 2021	REVISED & ISSUED TO WESTON CONSULTING FOR REVIEW
6	DEC. 23, 2020	REVISED & ISSUED TO WESTON CONSULTING FOR REVIEW
5	AUG. 18, 2020	REVISED & ISSUED TO WESTON CONSULTING FOR REVIEW
4	APR. 14, 2020	REVISED & ISSUED TO WESTON CONSULTING FOR REVIEW
3	SEPT. 28, 2019	COORDINATED WITH BING DRAWINGS & ISSUED FOR REVIEW
2	APR. 11, 2019	REVISED & ISSUED TO WESTON CONSULTING FOR REVIEW
1	JAN. 9, 2019	ISSUED TO WESTON CONSULTING FOR REVIEW
No. DATE:		WORK DESCRIPTION:

jardin
DESIGN GROUP INC
6 JARDIN DR. SUITE 3A
VAUGHAN ONT L4K 3P3
TEL: 905 660-3377 FAX: 905 660-3713
EMAIL: info@jardindesign.ca

The undersigned has reviewed and takes responsibility for this design and has the qualifications and meets the requirements set out in the Ontario Building Code to be a designer

QUALIFICATION INFORMATION		21031
Walter Boller	SIGNATURE	BCN
REGISTRATION INFORMATION		27763
jardin design group inc.	REGISTRATION	BCN
FIRM NAME		

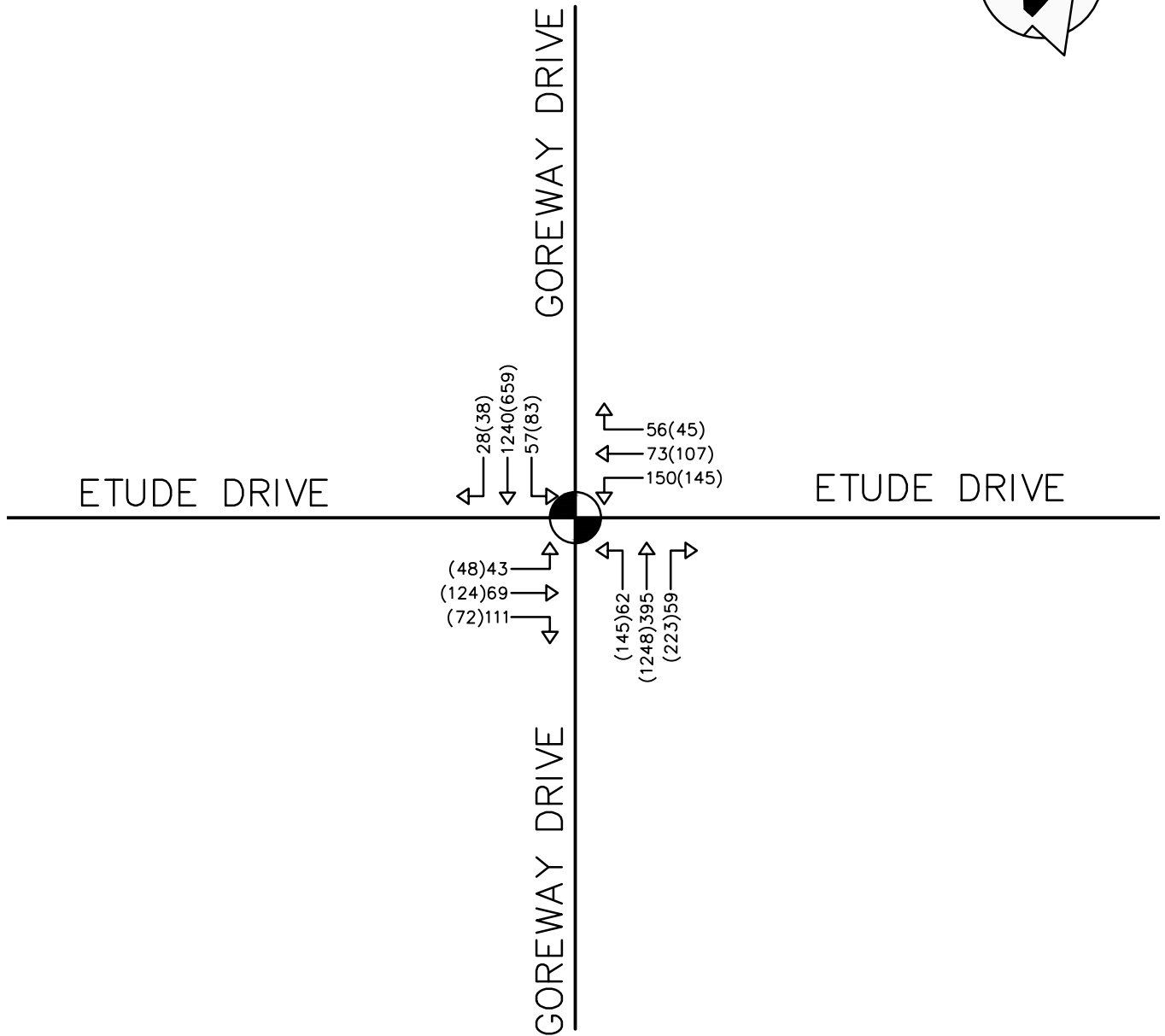
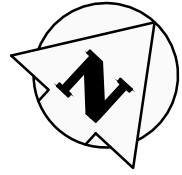
SITE PLAN

7170 GOREWAY DRIVE
(CITY OF MISSISSAUGA)

TYPE		SP
SCALE:		1:200
PROJ. No.		17-18
No.		A-01a

NOTE:

THIS FIGURE IS SCHEMATIC ONLY
AND IS NOT TO BE SCALED.



LEGEND:



SIGNAL CONTROL



STOP CONTROL



YIELD CONTROL



ROUND ABOUT

AM(PM) WEEKDAY AM(PM)
TRIP DISTRIBUTION

RESIDENTIAL DEVELOPMENT
7170 GOREWAY DRIVE
CITY OF MISSISSAUGA

2017 EXISTING TRAFFIC VOLUMES

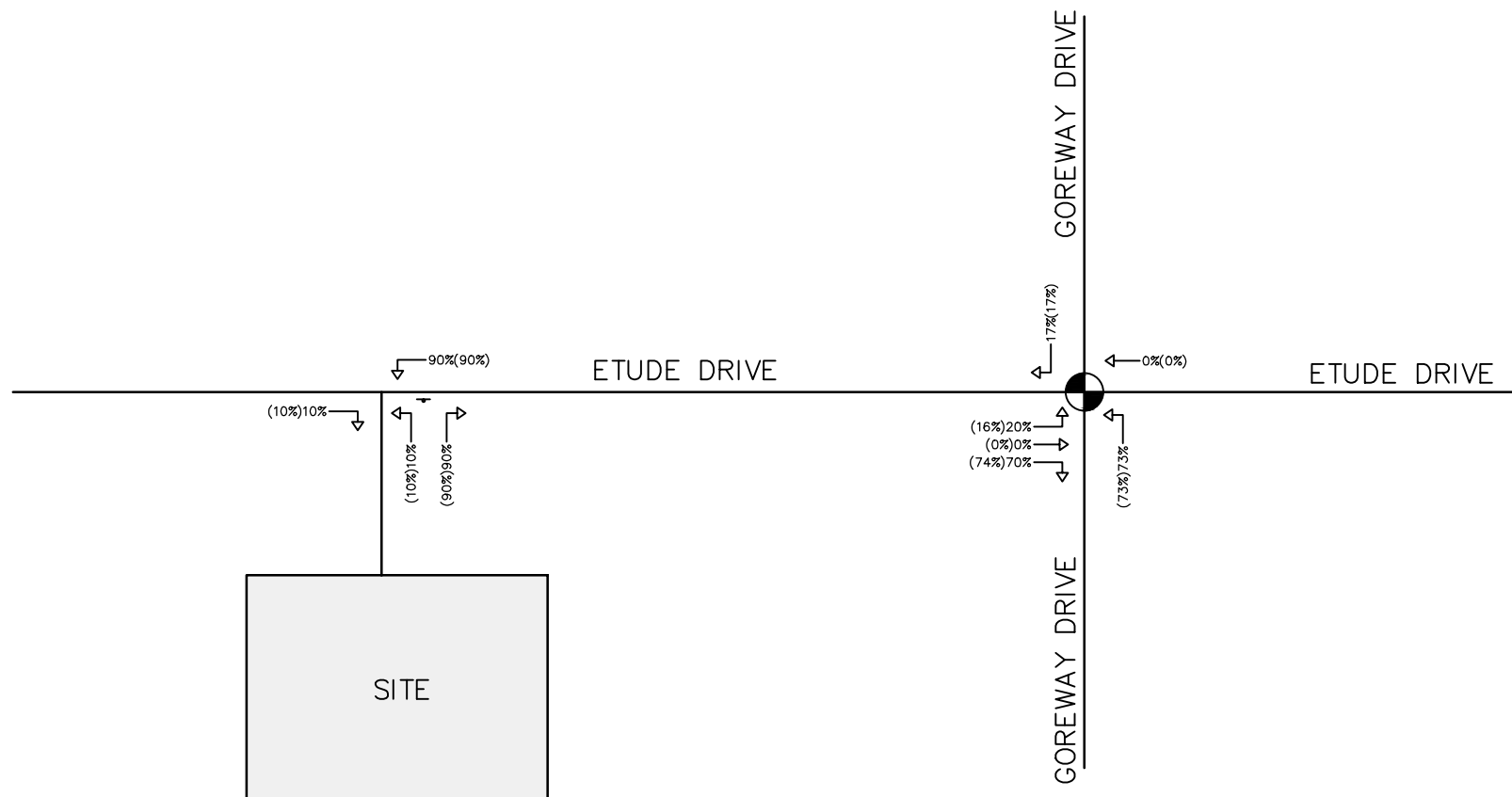
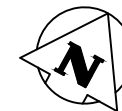


**CROZIER
& ASSOCIATES**
Consulting Engineers

2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905 875-0026 T
905 875-4915 F
WWW.CFCROZIER.CA

Drawn	P.A.	Design	P.A.	Project No.	1346-4573
Check	R.A.W.	Check	R.A.W.	Scale	N.T.S.
				Dwg.	FIG. 03

NOTE:
THIS FIGURE IS SCHEMATIC ONLY
AND IS NOT TO BE SCALED.



LEGEND:

	SIGNAL CONTROL
	STOP CONTROL
	YIELD CONTROL
	ROUND ABOUT
	WEEKDAY AM(PM) TRIP DISTRIBUTION

RESIDENTIAL DEVELOPMENT
7170 GOREWAY DRIVE
CITY OF MISSISSAUGA

TRIP DISTRIBUTION

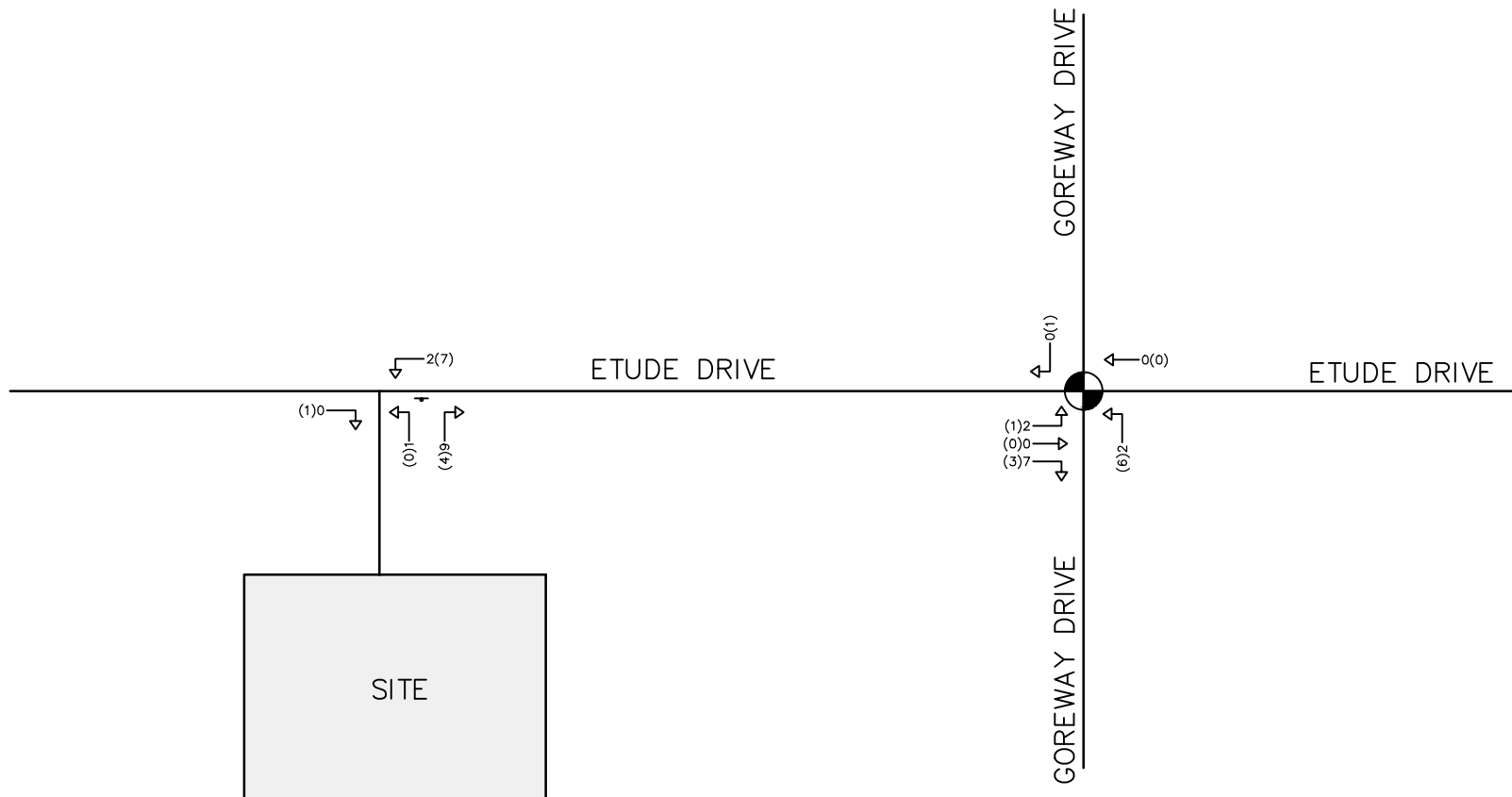
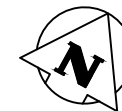


**CROZIER
& ASSOCIATES**
Consulting Engineers

2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905 875-0026 T
905 875-4915 F
WWW.CFCROZIER.CA

Drawn	P.A.	Design	P.A.	Project No.	1346-4573
Check	R.A.W.	Check	R.A.W.	Scale	N.T.S.
				Rep.	FIG. 04

NOTE:
THIS FIGURE IS SCHEMATIC ONLY
AND IS NOT TO BE SCALED.



LEGEND:

	SIGNAL CONTROL
	STOP CONTROL
	YIELD CONTROL
	ROUND ABOUT
	WEEKDAY AM(PM) TRIP DISTRIBUTION

RESIDENTIAL DEVELOPMENT
7170 GOREWAY DRIVE
CITY OF MISSISSAUGA

TRIP ASSIGNMENT

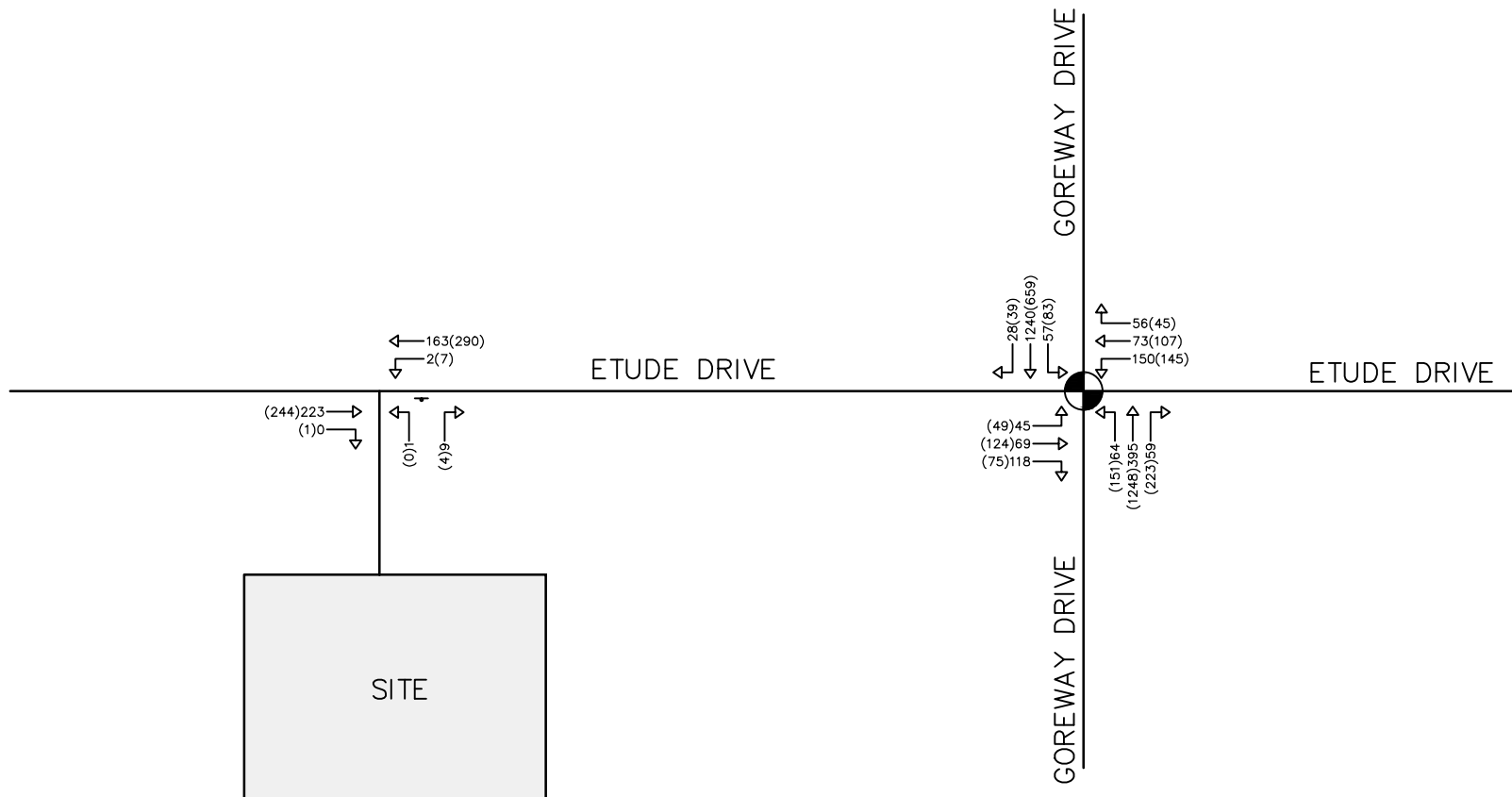
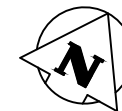


**CROZIER
& ASSOCIATES**
Consulting Engineers

2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905 875-0026 T
905 875-4915 F
WWW.CFCROZIER.CA

Drawn	P.A.	Design	P.A.	Project No.	1346-4573
Check	R.A.W.	Check	R.A.W.	Scale	N.T.S.
				Rep.	FIG. 05

NOTE:
THIS FIGURE IS SCHEMATIC ONLY
AND IS NOT TO BE SCALED.



LEGEND:

	SIGNAL CONTROL
	STOP CONTROL
	YIELD CONTROL
	ROUND ABOUT
	WEEKDAY AM(PM) TRIP DISTRIBUTION

RESIDENTIAL DEVELOPMENT
7170 GOREWAY DRIVE
CITY OF MISSISSAUGA

2017 TOTAL TRAFFIC VOLUMES



**CROZIER
& ASSOCIATES**
Consulting Engineers

2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905 875-0026 T
905 875-4915 F
WWW.CFCROZIER.CA

Drawn	P.A.	Design	P.A.	Project No.	1346-4573
Check	R.A.W.	Check	R.A.W.	Scale	N.T.S.
				Rep.	FIG. 06